Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 16.04.98 : ISO 4113

Combination No. : 9 400 030 722

Injection pump

Pump designation : PES4A950320/3RS2880

EP type number : 9 410 037 214

Governor

Governer design. : RSV475...1100A0C837R

Governer no. : 9 420 034 707

Cust. part No. : DEP: 3928603

Customer-spec. information

Customer : CDC Motor : CUMMINS-4BTA-3.9

Power KW : 82.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

40 temp. °C : +- 2.0 Tolerance °C

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : +- 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x length mm : 600

2.0

x inside diameter :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.45 Tolerance mm : + 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270 Tolerance : +- 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery blocking

°NW after s.o.d. : 9.00 Tolerance : +- 0.50

Check

tolerance "NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.85 Tolerance mm : +- 0.05

Del. quantity	+ Android pressure
cm3/1000 strokes : 110.0	+ hPa : 1200
	+ Del. quantity
Tolerance	+ cm3/1000 strokes : 110.0
cm3/1000 strokes : +- 1.0	+ Tolerance
	+ cm3/1000 strokes : +- 1.0
Check tolerance	+ Check tolerance
cm3/1000s. : +- 3.0	+ cm3/1000s. : +- 3.0
CIII37 10003	Spreed
Consortium and the second seco	
Spreed	+ Tolerance
	+ cm3/1000 strokes : 4.0
Tolerance	+ Check tolerance
cm3/1000 strokes : 4.0	+ cm3/1000s. : 6.5
	+
Check tolerance	+
cm3/1000s. : 6.5	
	+ CONTROL LEVER
	1
	+ control lever
Rated speed rpm : 475	position degree : 106.0
nateu speeu (piii . 41)	
D 4 4 4 4 5 4 4 5	tolerance degree : +- 4.0
Rack travel in mm: 6.15	DATES 00000
Tolerance mm : +- 0.10	+ RATED SPEED
Del. quantity	+ rack travel mm : 11.80
cm3/1000 strokes : 22.6	+ Rated speed rpm : 1155
Tolerance	† Tolerance 1/min : + 5
cm3/1000 strokes : +- 2.0	+
Check tolerance	rack travel mm : 6.50
cm $3/1000$ S. : \leftarrow 4.5	+ Rated speed rpm : 1235
Spreed	+ Tolerance 1/min : + 5
Tolerance	1
cm3/1000 strokes : 6.0	rack travel mm : 0.85
	1
Check tolerance	
cm3/1000s. : 8.0	+ Rated speed rpm : 1350
	†
	+ rack travel mm : 6.50
(B) SETTING OF INJECTION PUMP	+ Rated speed rpm : 1235
WITH GOVERNOR	+ Tolerance 1/min : +- 15
	+
	1
	1
GUIDE SLEEVE POSITION	
00192 002242 1 00212011	LOW IDLE
	1
control layer	
control lever	T control laves
position degree : - 3	+ control lever
Rated speed rpm : 800	+ position degree : 85.0
	+ tolerance degree : +- 4.0
Rack travel in mm : 0.50	+
Tolerance mm : + 0.20	+ Control Lever difference
	+ Grad : 21.0
governor spring	tolerance degree : +- 6.0
pre-tension	1
click setting x : 4.25	+ Setting point w/out bumper spring
etion octing n	
	Rated speed rpm : 475
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 5.15
LOFF FOWN METACK! HI LOFF FOWN 2106	
0-4-4	† Tolerance mm : + 0.10
Rated speed rpm : 1100	Ť dos
	+ Rated speed rpm : 100

CRT mm min.	: > 19.00
Testing:	
Rated speed rpm rack travel min Tolerance mm	: 475 : 6.15 : ← 0.10
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 750 : 14.20 : +- 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 800 : 1200
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: -
MEASUREMENT	
Rated speed rpm	: 800
Pressure hPa rack travel mm Tolerance mm	: 650 : 12.45 : +- 0.20
Pressure hPa rack travel mm Tolerance mm	: 550 : 11.75 : +- 0.20
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	
cm3/1000 strokes Check tolerance cm3/1000s.	: +- 2.0 : +- 4.0

Aneroid pressure			
hPa Rat ed sp ee d rpm	:		800
Del. quantity	٠		000
cm3/1000 strokes	:		84.0
Tolerance			4.5
cm3/1000 strokes Check tolerance	:	+	1.0
cm3/1000s.	;	+-	3.0
rack travel mm			
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	•	20.50 0.50 121.4 10.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	•	•	0.50
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	•	•	0.50 121.4 10.0

LOW IDLE			
Rated speed rpm	:		475
Rack travel in mm	:		6.15
Tolerance mm	:	+	0.10
Del. quantity cm3/1000 strokes	:		22.6
Tolerance cm3/1000 strokes	:	+-	2.0
Check tolerance cm3/1000s.			4.5
Spreed	•	T-	4.5
Tolerance cm3/1000 strokes	•		6.0
Check tolerance	•		6.0
cm3/1000S.			8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 12.05.98 Edition : ISO 4113 Test oil

Combination No. : 0 401 876 790

Injection pump

Pump designation : PE6P120A320RS3189 EP type number : 0 411 826 759

Governor

Governer design. : RSV650...750P4A421

: -10

: 0 421 833 369 Governer no.

Cust. part No. : 864845 P05 V. 06/96

Customer-spec. information Customer : PENTA : TD1010G Motor

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : Tolerance bar : +- 0.1

Overflow quantity

min. L/h 200 : +- 20.0 Tolerance l/h

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter :

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 2.65 : +- 0.05 Tolerance mm Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance 'NW : **←** 0.75

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance 'NW : +- 0.75

: 1 Barrel no.

BASIC SETTING

700 Rated speed rpm :

		I	
Rack travel in mm : Tolerance mm :	: 11.60 : +- 0.05	FULL LOAD DELIVER Rated speed rpm	Y AT FULL LOAD STOP
Del. quantity cm3/1000 strokes :	256.0	Aneroid pressure 1)Pa Del. quantity	: -
Tolerance cm3/1000 strokes :	+- 1.0	cm3/1000 strokes Tolerance cm3/1000 strokes	
Check tolerance cm3/1000S. :	+- 4.0	Check tolerance cm3/1000s.	: +- 4.0
Spreed		Tolerance cm3/1000 strokes	: 5.0
Tolerance cm3/1000 strokes :	5.0	Check tolerance cm3/1000s.	: 9.0
Check tolerance cm3/1000s. :	9.0		
		+ CONTROL LEVER	
Rated speed rpm :	650	control leverposition degreetolerance degree	
Rack travel in mm : Tolerance mm :	3.50 +- 0.10	RATED SPEED	
Del. quantity cm3/1000 strokes :	25.0	rack travel mm Rated speed rpm	: 753
Tolerance cm3/1000 strokes :	← 2.5	+ Tolerance 1/min	
Spreed	← 5.0	+ rack travel mm + Rated speed rpm + Tolerance 1/min	: 4.00 : 783 : ← 7
Tolerance cm3/1000 strokes : Check tolerance		rack travel mm Tolerance mm	: 0.85 : +- 0.55
cm3/1000s. :	8.0	+ Rated speed rpm	: 900
(B) SETTING OF INJE	CTION PUMP	ASSEMBLY GOVERNOR	SETTING
WITH GOVERNOR		Rated speed rpm rack travel mm	: 750 : 10.60
GUIDE SLEEVE POSITION	ON	Rated speed rpm Tolerance 1/min rack travel mm	: +- 4
	- 3 800	rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 900
Rack travel in mm : Tolerance mm :		Rated speed rpm rack travel mm	: 751 : 10.60
governor spring pre-tension click setting x :	4.00	Rated speed rpm Tolerance 1/min rack travel mm	

rack travel mm Tolerance mm Rated speed rpm	: +- 0.55	- Testing: - - Rated speed rpm : 650
	+	- rack travel mm : 3.50 - Tolerance mm : + 0.10
Rated speed rpm rack travel mm	: 752 : 10.60	- - rack travel mm : 2.00 - Rated speed rpm : 680
Rated speed rpm Tolerance 1/min	: +- 4	- Tolerance 1/min : +- 30
rack travel mm	: 4.00	- SET IDLE AUXILIARY SPRING -
rack travel mm Tolerance mm Rated speed rpm	: ← 0.55 ↓	- rack travel mm : 2.00
	<u>†</u>	- TORQUE CONTROL - Rated speed rpm : 700
Rated speed rpm rack travel mm	: 753 : 10.60	rack travel mm : 11.60 Tolerance mm : + 0.05
Rated speed rpm Tolerance 1/min rack travel mm	: 4 +	· - - -
rack travel mm Tolerance mm Rated speed rpm	: ← 0.55	- STARTING FUEL DELIVERY
Rated speed rpm rack travel mm	: 754 : 10.60	- Rated speed rpm : 100 - rack travel mm : 20.50 - Tolerance mm : +- 0.50 -
Rated speed rpm Tolerance 1/min rack travel mm	: +- 4 +	-
rack travel mm	: 0.85	- Rat ed sp ee d rpm : 650
Tolerance mm Rated speed rpm		Rack travel in mm : 3.50 Tolerance mm : + 0.10 Del. quantity
Rated speed rpm rack travel mm		cm3/1000 strokes : 25.0 Tolerance
Rated speed rpm	: 783	cm3/1000 strokes : +- 2.5 Check tolerance
Tolerance 1/min rack travel mm	•	cm3/1000s. : +- 5.0 Spreed
rack travel mm Tolerance mm	: 0.85 : ← 0.55	Tolerance cm3/1000 strokes : 5.0 Check tolerance
Rated speed rpm	: 900	cm3/1900s. : 8.0
LOW IDLE		· · · · · · · · · · · · · · · · · · ·
control lever position degree tolerance degree		End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 31.08.94 : ISO 4113

Combination No. : 0 402 040 700

Injection pump

Pump designation : PES12P120A920RS3335 EP type number : 0 412 020 701

Governor

Governer design. : RQV350...1400PA1145

Governer no. : 0 421 814 092

Cust. part No. :

Customer-spec. information

: FINCANTIERI Customer

Motor

: 1312 T2

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C

Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

A07

x length mm : 600 **REMARKS** (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____ BEGINNING OF DELIVERY 26.0 Test pressure bar : Tolerance bar : +- 1.0 Prestroke mm 3.55 : **←** 0.05 Tolerance mm Check : +- 0.10 tolerance mm Rack travel in mm : 10.50 Tolerance mm : +. 1.50 : 1-12- 9- 4- 5 Firing order

: 0-45-60-105-120 Phasing

: -165-180-225-240 : -285-300-345

: - 8- 11- 2- 3 : - 10- 7- 6

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 15.30 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 288.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance cm3/1000 strokes : 7.0	Rated speed rpm : 1740 guide sleeve
Check tolerance cm3/1000s. : 11.0	travel mm : 11.50 Tolerance mm : +- 0.50
1	GUIDE SLEEVE POSITION
Rated speed rpm : 350	GOIDE SEEENE POSTITOR
Rack travel in mm: 8.10	control lever
Tolerance mm : + 0.10 + Del. quantity +	position degree : - 1 Rated speed rpm : 1490
cm3/1000 strokes : 39.0	Rated Speed Ppin : 1470
Tolerance +	Rack travel in mm : 14.30
cm3/1000 strokes : + 3.0 +	Tolerance mm : +- 1.30
Check tolerance + 6.0 +	
Spreed +	
Tolerance +	CONTROL LEVER
cm3/1000 strokes : 10.0	and the Land
Check tolerance + cm3/1000s. : 14.0 +	control lever position degree : 117.0
CIIS/10003 14.0	tolerance degree : +- 4.0
+	_
(B) SETTING OF INJECTION PUMP	RATED SPEED
WITH GOVERNOR	rack travel mm : 14.30 Rated speed rpm : 1395
	Tolerance 1/min : +- 5
GUIDE SLEEVE TRAVEL	
Batad aread === . 1/15	rack travel mm : 4.00
Rated speed rpm : 1415 + guide sleeve +	Rated speed rpm : 1630 Tolerance 1/min : +- 15
travel mm : 8.40	rocci and trimin
Tolerance mm : + 0.15	rack travel mm : 1.00
Rated speed rpm : 350 +	Tolerance mm : +- 0.70 Rated speed rpm : 1750
Rated speed rpm : 350 + quide sleeve +	Rated speed rpm : 1750
travel mm : 1.63	
Tolerance mm : + 0.20 +	
Rated speed rpm : 910	LOW IDLE
guide sleeve	LOW TOLE
travel mm : 5.33 +	
Tolerance mm : + 0.25 +	control lever
Rated speed rpm : 394	position degree : 73.0 tolerance degree : + 4.0
guide sleeve	toterance degree . 1- 4.0
travel mm : 2.38 +	Setting point w/out bumper spring
Tolerance mm : + 0.25	Dated aread and 350
Rated speed rpm : 444	Rated speed rpm : 250
guide sleeve	CRT mm min. : > 9.60
travel mm : 2.95	
Tolerance mm : +- 0.25 +	Testing:
Rated speed rpm : 520	Rated speed rpm : 350
guide steeve	rack travel mm : 8.10
travel mm : 3.49	Tolerance mm : + 0.10
Tolerance mm : \leftarrow 0.25 $+$	

Rated speed rpm	: 525		+ Del. + cm3/1
			+ Toler
TORQUE CONTROL			+ cm3/1
Rated speed rpm	: 750		+ Check
rack travel mm			+ cm3/1
Tolerance mm	: +- 0.05		+
			+
Rated speed rpm	: 1350		+
rack travel mm	: 15.30		+ START
Tolerance mm	: ← 0.15		+
			+ ESS
			+ rack
ANEROID/ALTITUDE			+ cont
COMPENSATOR TEST			+
			+
			+
SETTING			+ Rated
			+ rack
Rated speed rpm	: 500		+ Toler
Pressure hPa	: 1000		+ Del.
rack travel mm	: 15.35		+ cm3/1
Tolerance mm	: ← 0.05		+ Toler
			+ cm3/1
Rated speed rpm	: 500		+ Check
Pressure hPa	: -		+ cm3/1
rack travel mm	: 10.80		+
Tolerance mm	: - 0.20		+
			+
MEASUREMENT			+
Dakad saasd	. 500		+ LOW I
Rated speed rpm	: 500		T 0-4
Descript LD-	: 400		+ Rated
Pressure hPa			Rack
rack travel mm	: 12.00 : ← 0.20		+ Toler
Tolerance mm	: +- 0.20		1
Pressure br-	: 500		+ Del. + cm3/1
Pressure hPa			
rack travel mm			+ Toler + cm3/1
Tolerance mm	: ← 0.05		
			+ Check + cm3/1
			Spree
FUEL DELIVERY CHA	DACTEDISTICS		+ Toler
OEL DELTAEK! CUN	ILMC EUT 21172		- cm3/1
		_	+ Check
Aneroid pressure			+ cm3/1
heroid pressure hPa	: 1000		I
	: 1350		I
Rated speed rpm	الردا .		I
Del. quantity cm3/1000 strokes	: 278.0		Ι
	. 6/0.0		I
Tolerance cm3/1000 strokes	: ← 3.0		End o
Check tolerance	. +- 3.0		I
cm3/1000s.	: +- 6.0		I
	. +- 0.0		I
			I
loonaid pressure			I
Aneroid pressure			Ι
nPa	500		Ī
Rated speed rpm	; 500		+

quantity 1000 strokes : 139.0 rance 1000 strokes : +- 1.0 k tolerance 1000s. : +- 4.0

TING FUEL DELIVERY

test: With 24 V solenoid activated, k must reach start position in max. trol lever setting.

d speed rpm : 100 travel mm : 20.25 rance mm : +- 0.75 quantity 1000 strokes : 420.0 rance 1000 strokes : +- 15.0 k tolerance 1000s. : +- 19.0

IDLE

d speed rpm : 350 travel in mm: 8.10 rance mm : +- 0.10 quantity 1000 strokes : 39.0 rance $1000 \text{ strokes} : \leftarrow 3.0$ c tolerance 000s. : +- 6.0 be rance 1000 strokes : 10.0 c tolerance : 14.0 000s.

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.05.98 Test oil : ISO 4113

Combination No. : 0 402 046 882

Injection pump

Pump designation : PES6P110A320RS3329 EP type number : 0 412 016 743

Governor

Governer design. : RQV325...1250PA1385

Governer no. : 0 421 814 209

Cust. part No. : 1351707

Customer—spec. information Customer : DAF

Motor : NS177M-CBP

Power KW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 140 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 12.80Tolerance mm : $\leftarrow 0.50$

Firing order : 1-5-3-6-2

: - 4

Phasing : 0- 60- 120- 180

: - 240- 300

Tolerance : +- 0.50

Check

tolerance °NW : + 0.70

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance °NW : +- 0.70

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

....

	+	
Rack travel in mm : Tolerance mm :	12.80 + 0.05	Rated speed rpm : 520 guide sleeve travel mm : 3.02
Del. quantity cm3/1000 strokes :	154.5	Tolerance mm : +- 0.25
	+	Rated speed rpm : 1510
Tolerance cm3/1000 strokes :	+ 1.0	guide sleeve travel mm : 13.50 Tolerance mm : +- 0.50
Check tolerance cm3/1000s. :	+ 4.0	GUIDE SLEEVE POSITION
Spreed		SOURCE SECURE 1 SOUTH AND THE SECURE
Tolerance cm3/1000 strokes :	5.0	control lever position degree : - 1 Rated speed rpm : 1360
Check tolerance cm3/1000S. :	9.0	Rack travel in mm : 11.80 Tolerance mm : +- 1.30
	1	
Rated speed rpm :	325	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm :	4.40	Rated speed rpm : 1000
Tolerance mm :	← 0.10 +	Aneroid pressure
Del. quantity	+	hPa : 1500
cm3/1000 strokes :	26.0	Del. quantity
Tolerance		cm3/1000 strokes : 154.5
cm3/1000 strokes :	+ 3.0	Tolerance
Check tolerance	+ 6.0	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000s. :	T 0.0	cm3/1000s. : +- 4.0
Tolerance	I	Spreed
cm3/1000 strokes :	8.0	Tolerance
Check tolerance	1	cm3/1000 strokes : 5.0
cm3/1000s. :	12.0	Check tolerance
	+	cm3/1000s. : 9.0
(B) SETTING OF INJECTION	CTTON PLIMP	
WITH GOVERNOR	1	
		CONTROL LEVER
GUIDE SLEEVE TRAVEL	+	control lever
	+	position degree : 123.0
Rated speed rpm : guide sleeve	+	tolerance degree : +- 4.0
travel mm :	10.33	RATED SPEED
Tolerance mm :	+ 0.15	rack travel mm : 11.80
Data da esta d	725	Rated speed rpm : 1290
Rated speed rpm :	325	Tolerance 1/min : +- 5
guide sleeve travel mm :	1.25	Check speed 1/min : +- 10
	+ 0.20	Speed 1/111111 . +- 10
TOTAL MINE I	Ţ	rack travel mm : 4.00
Rated speed rpm :	865	Rated speed rpm : 1375
guide sleeve	+	Tolerance 1/min : +- 15
travel mm :	5.43	Check
Tolerance mm :	+ 0.25	speed $1/\min$: +- 20

LOW IDLE

control lever

position degree : 77.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 225

CRT mm min. : > 6.00

Testing:

Rated speed rpm : 325 rack travel mm : 4.40 Tolerance mm : ← 0.10

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1000 rack travel mm : 12.80 Tolerance mm : ± 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

600 Rated speed rpm : Pressure hPa : 1500 rack travel mm : 12.80 Tolerance mm : + 0.10

Rated speed rpm : 600 Pressure hPa : rack travel mm : 7.30 Tolerance mm : + 0.10

MEASUREMENT

Rated speed rpm : 600

Pressure hPa : 210 rack travel mm : 8.60 Tolerance mm : +- 0.10

Pressure hPa : 410 rack travel mm : 11.40 Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm : 1000 Sel. quantity

cm3/1000 strokes : 93.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed

Tolerance

cm3/1000 strain Check tolerance 7/4000s : 12.0 cm3/1000 strokes : 8.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 4.40 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 26.0 Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s. : +- 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

: cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 12.05.98 Test oil : ISO 4113

Combination No. : 0 402 086 705

Injection pump

Pump designation : PES6P100B321RS3388

EP type number : 0 412 006 714

Governor

Governer design. : RSV400...1125P0A694

Governer no. : 0 421 833 617

Cust. part No. : 51.10100-7606

Customer—spec. information Customer : MAN

Motor : D0826 LE527

Power KW : 169.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 150
Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : ← 1.0

Prestroke mm : 3.30
Tolerance mm : + 0.05
Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 13.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

4

Phasing : 0-60-120-180-240

: −300 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

Tolerance : \leftarrow 0.10

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 925

Rack travel in mm : Tolerance mm	: 13.90 : ← 0.05
Del. quantity cm3/1000 strokes	: 169.0
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1030s.	: +- 4.0
Spreed	
Tolerance cm3/1000 strokes :	4.0
Check tolerance cm3/1000s.	6.0
Rated speed rpm :	400
Rack travel in mm : Tolerance mm : Del. quantity	4.80 +- 0.10
cm3/1000 strokes :	25.0
Tolerance cm3/1000 strokes :	+ 3.0
Check tolerance cm3/1000s.	+- 6.0
Spreed	
Tolerance cm3/1000 strokes :	3.5
Check tolerance cm3/1000s. :	5.5
(B) SETTING OF INJE	
GUIDE SLEEVE POSITI	ON -
control lever position degree : Rated speed rpm :	ON - 3 800 + 0.50 + 0.20
Rack travel in mm : Tolerance mm :	0.50 ← 0.20
governor spring pre-tension click setting x :	5.50

Rated speed rpm	: 925
Aneroid pressure hPa	: 1500
Del. quantity cm3/1000 strokes	: 169.0
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1000s.	: +- 4.0
Spreed Tolerance	
cm3/1000 strokes Check tolerance	: 4.0
cm3/1000s.	: 6.0
CONTROL LEVER	
control lever position degree tolerance degree	: 104.4 : + 4.0
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 12.10 : 1175 : +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1260 : + 15
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55 : 1400
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1265 : +- 15
LOW IDLE	

FULL LOAD DELIVERY AT FULL LOAD STOP

control lever
position degree : 80.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 400 rack travel mm : 4.30 Tolerance mm : + 0.10

Testing:

Rated speed rpm : 400 rack travel mm : 4.80 Tolerance nm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 500 Tolerance 1/min : + 30

TORQUE CONTROL
Rated speed rpm : 925
rack travel mm : 13.90
Tolerance mm : +- 0.05

Rated speed rpm : 1125
rack travel mm : 13.10
Tolerance mm : +- 0.10

Rated speed rpm : 700
rack travel mm : 14.00
Tolerance mm : +- 0.10

Rated speed rpm : 1000
rack travel mm : 13.70
Tolerance mm : +- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 14.00
Tolerance mm : ← 0.10

Rated speed rpm : 500
Pressure hPa : rack travel mm : 9.50
Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 150 rack travel mm : 10.00 Tolerance mm : + 0.05

Pressure hPa : 800 rack travel mm : 13.20 Tolerance mm : + 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500 Rated speed rpm : 1125 Del. quantity cm3/1000 strokes : 146.5

Tolerance cm3/1000 strokes : +- 3.0 Check tolerance

cm3/1000s. : +- 6.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
rack travel mm : 14.00
Tolerance mm : + 0.10
Del. quantity
cm3/1000 strokes : 180.5
Tolerance
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000S. : + 6.0

Aneroid pressure
hPa : Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 90.0
Tolerance
cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 9.50 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 112.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000S. : + 14.0

LOW IDLE

Rated speed rpm : 400

Rack travel in mm : 4.80 Tolerance mm : + 0.10

Del. quantity cm3/1000 strokes	:	25.0
Tolerance cm3/1000 strokes	: +-	3.0
Check tolerance cm3/1000s.	: +-	6.0
Spreed Tolerance		
cm3/1000 strokes Check tolerance	:	3.5
cm3/1000\$.	:	5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 12.05.98 Test oil : ISO 4113

Combination No. : 0 402 646 626

Injection pump

Pump designation : PE6P120A320RS7299

EP type number : 0 412 626 885

Governor

Governer design. : RQV275...1000PA1076K

Governer no. : 0 421 815 357

Cust. part No. : 1280160

Customer-spec. information

Customer : DAF : WS 268 M Power KW : 268.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Tolerance bar : + 0.1

Overflow quantity

min. L/h : 160
Tolerance L/h : + 20.0

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

har

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter :

3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : ← 1.0

Prestroke mm : 4.85 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : ← 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 13.55 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 250.0

Tolerance

cm3/1000 strokes : +- 1.0

Chark talanana		į.
Check tolerance	: +- 4.0	T Dated around row . 300
cm3/1000s.	; +- 4.0	+ Rated speed rpm : 390
		+ guide sleeve
Spreed		+ travel mm : 3.79
		Tolerance mm : +- 0.25
Tolerance		†
cm3/1000 strokes	s: 5.0	+ Rated speed rpm : 1310
		+ guide steeve
Check tolerance		+ travel mm : 13.50
cm3/1000s.	: 9.0	+ Tolerance mm : +- 0.50
		+
		+ GUIDE SLEEVE POSITION
Rated speed rpm	: 275	+
		+
Rack travel in m		† control lever
Tolerance mm	: - 0.10	→ position degree : -1
Del. quantity		+ Rated speed rpm : 1130
cm3/1000 strokes	: : 17.0	+
Tolerance		Rack travel in mm : 12.60
cm3/1000 strokes	; ; +- 3.0	+ Tolerance mm : + 1.30
Check tolerance	-	+
cm3/1000s.	: +- 6.0	
Spreed		FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance		
cm3/1000 strokes	8.0	Rated speed rpm : 980
Check tolerance		+ Aneroid pressure
cm3/1000s.	: 12.0	+ hPa : 1500
CHIS7 10003.	. 12.0	Del. quantity
		+ cm3/1000 strokes : 250.0
(B) SETTING OF I	NIECTION DIMO	Tolerance
WITH GOVERNOR	MAECITON FORE	cm3/1000 strokes : + 1.0
MTIH GOVEKINOK		Check tolerance
		- cm3/1000s. : +- 4.0
CHIEF OF THE TOA	LIP.	
GUIDE SLEEVE TRA	VEL	+ Spreed + Tolerance
D-1-4	. 40/5	+ cm3/1000 strokes : 5.0
Rated speed rpm	: 1045	
guide sleeve	0.82	+ Check tolerance
travel mm	: 9.82	+ cm3/1000S. : 9.0
Tolerance mm	: +- 0.20	†
	A75	+
Rated speed rpm	: 275	CONTROL LEVER
guide sleeve	2.44	CONTROL LEVER
travel mm	: 2.14	†
Tolerance mm	: ← 0.15	control lever
		+ position degree : 120.0
Rated speed rpm	: 689	+ tolerance degree : +- 4.0
guide sleeve		+
travel mm	: 6.43	+ RATED SPEED
Tolerance mm	: +- 0.25	+ rack travel mm : 12.55
		+ Rated speed rpm : 1042
Rated speed rpm	: 284	+ Tolerance 1/min : +- 5
guide sleeve		+
travel mm	: 2.27	+ rack travel mm : 4.00
Tolerance mm	: ← 0.25	+ Rated speed rpm : 1160
		+ Tolerance 1/min : + 15
Rated speed rom	: 334	+
Rated speed rpm quide sleeve	: 334	rack travel mm : 0.70
guide sleeve		
guide sleeve travel mm	: 3.17	Tolerance mm : + 0.70
guide sleeve	: 3.17	

LOW IDLE

control lever

position degree : 74.0 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 175

CRT mm min. : > 7.50

Testing:

Rated speed rpm : 275
rack travel mm : 4.80
Tolerance mm : +- 0.10

Rated speed rpm : 275

TORQUE CONTROL

Rated speed rpm : 980 rack travel mm : 13.55 Tolerance mm : +- 0.05

Rated speed rpm : 750 rack travel mm : 13.05 Tolerance mm : + 0.05

Rated speed rpm : 600 rack travel mm : 12.10 Tolerance mm : + 0.10

Rated speed rpm : 500 rack travel mm : 11.70 Tolerance mm : + 0.10

Rated speed rpm : 980 rack travel mm : 13.70 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 980
Pressure hPa : 1500
rack travel mm : 13.55
Tolerance mm : +- 0.05

Rated speed rpm : 980

Pressure hPa : rack travel mm : 8.60
Tolerance mm : + 0.10

MEASUREMENT

Rated speed rpm : 980

Pressure hPa : 720
rack travel mm : 12.25
Tolerance mm : + 0.05

Pressure hPa : 360 rack travel mm : 9.80 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure 1500 hPa Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 263.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

rack travel mm : 12.10 Tolerance mm : + 0.10

Aneroid pressure hPa

hPa : Rated speed rpm : 600
Del. quantity

cm3/1000 strokes : 154.0 Tolerance

Tolerance cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

LOW IDLE

Rated speed rpm : 275

Rack travel in mm Tolerance mm	:	+-	4.80 0.10
Del. quantity cm3/1000 strokes Tolerance	:		17.0
cm3/1000 strokes Check tolerance	:	+-	3.0
cm3/1000s. Spr eed	:	+	6.0
Tolerance cm3/1000 strokes Check tolerance	:		8.0
cm3/1000s.	;		12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.05.98 Test oil : ISO 4113

Combination No. : 0 402 646 671

Injection pump

Pump designation : PE6P120A320RS7421 EP type number : 0 412 626 956

Governor

Governer design. : RQV275...1150PA1297K

Governer no. : 0 421 815 524

Cust. part No. : 1316184/1

Customer—spec. information Customer : DAF

Motor : PF 212 M Power KW : 205.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 160 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 15.0 Tolerance bar : +- 1.0

Prestroke mm : 4.85 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Start of delivery mark

Tolerance : + 0.10

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 850

000

	1
Rack travel in mm : 12.35 Tolerance mm : +- 0.05	Rated speed rpm : 450 guide sleeve travel mm : 3.85
Del. quantity cm3/1000 strokes : 231.0	Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 1480 guide sleeve travel mm : 13.50
Check tolerance cm3/1000s. : +- 4.0	Tolerance mm : +- 0.50
Spreed	+ GUIDE SLEEVE POSITION
Tolerance : 5.0	control lever position degree : - 1 Rated speed rpm : 1329
Check tolerance cm3/1000s. : 9.0	Rack travel in mm : 11.10 Tolerance mm : + 2.70
Rated speed rpm : 275	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 4.90 Tolerance mm : +- 0.10	Rated speed rpm : 850 Aneroid pressure
Del. quantity cm3/1000 strokes : 16.0	+ hPa : 1500 + Del. quantity
Tolerance cm3/1000 strokes : +- 3.0 Check tolerance	+ cm3/1000 strokes : 231.0 + Tolerance + cm3/1000 strokes : + 1.0
cm3/1000s. : +- 6.0 Spreed	Check tolerance cm3/1000s. : +- 4.0
Tolerance cm3/1000 strokes : 8.0 Check tolerance	+ Spreed + Tolerance + cm3/1000 strokes : 5.0
cm3/1000s. : 12.0	Check tolerance cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	
	CONTROL LEVER
GUIDE SLEEVE TRAVEL	control lever position degree : 118.0
Rated speed rpm : 1206 guide sleeve	tolerance degree : +- 4.0
travel mm : 10.12 Tolerance mm : + 0.15	+ RATED SPEED + rack travel mm : 11.10 + Rated speed rpm : 1195
Rated speed rpm : 275 guide steeve	Tolerance 1/min : +- 5 Check
travel mm : 1.71 Tolerance mm : + 0.20	speed 1/min : + 10
Rated speed rpm : 813 guide sleeve	rack travel mm : 4.00 Rated speed rpm : 1300 Tolerance 1/min : +- 15
travel mm : 6.81 - O.25 -	├ Check ├ speed 1/min : ← 20

rack travel mm Tolerance mm Rated speed rpm	
LOW IDLE	
control lever position degree tolerance degree	: 71.0 : ← 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 175
CRT mm min.	: > 7.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : 4.90 : ← 0.10
Rated speed rpm	: 350
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 850 : 12.35 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 1130 : 12.10 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 800 : 12.25 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 650 : 11.50 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 500 : 10.85 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 1150 : 12.10 : + 0.10

ANERO]	D/ALT	ITUDE
COMPEN	ISATOR	TEST

SETTING

Rated speed rpm Pressure hPa rack travel mm Tolerance mm	•	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	•	875 - 8.00 - 0.10

MEASUREMENT

Rated speed rpm	•	875
Pressure hPa rack travel mm Tolerance mm	: : +	420 11.35 - 0.05

Pressure hPa : 150 rack travel mm : 9.20 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	: 1500	
Rated speed rpm	: 1130	
Del. quantity	207	•
cm3/1000 strokes	: 207.	. U
Tolerance cm3/1000 strokes	: +- 2	.0
Check tolerance		. •
cm3/1000s.	: ← 5.	.0
Spreed		
Tolerance	_	_
cm3/1000 strokes	: 8.	. U
Check tolerance	. 43	0
cm3/1000s.	: 12.	. U
rack travel mm	: 12.1	15
Tolerance mm	: +- 0.1	10

Aneroid pressure
hPa : Rated speed rpm : 600
Del. quantity
cm3/1000 strokes : 138.0

Tolerance		
cm3/1000 strokes	: +-	1.0
Check tolerance		
cm3/1000\$.	: +-	4.0
Spreed		
Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance		
cm3/1000s.	:	12.0

LOW IDLE

Rated speed rpm	:	275
Rack travel in mm Tolerance mm	•	4. <i>9</i> 0 0.10
Del. quantity cm3/1000 strokes Tolerance	:	16.0
cm3/1900 strokes Check tolerance	: +-	3.0
cm3/1000S. Spreed Tolerance	: +-	6.0
cm3/1000 strokes		8.0
cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : ISO 4113

: 12.05.98

Combination No. : 0 402 646 675

Injection pump

Pump designation : PE6P120A320RS7299 EP type number : 0 412 626 885

Governor

Governer design. : RQV275...1000PA1337K

Governer no. : 0 421 815 554

Cust. part No. : 1322504

Customer-spec. information Customer : DAF : WS 268 M Motor Power KW : 268.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 140
Tolerance l/h : + 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : ← 1.0

Prestroke mm : 4.85
Toterance mm : + 0.05

Check

: **←** 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm: 13.55 Tolerance mm : +- 0.05

	+ guide sleeve
Del. quantity cm3/1000 strokes : 250.0	travel mm : 3.34 Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes : +- 1.0	Rated speed rpm : 1282 guide sleeve
Check tolerance cm3/1000s. : +- 4.0	travel mm : 12.00 Tolerance mm : +- 0.25
Spreed	Rated speed rpm : 1370 guide sleeve
Tolerance cm3/1000 strokes : 5.0	travel mm : 13.50 Tolerance mm : +- 0.50
Check tolerance cm3/1000s. : 9.0	GUIDE SLEEVE POSITION
Rated speed rpm : 275	control lever position degree : - 1 Rated speed rpm : 1248
Rated Speed rpm : 273	rated speed rpm : 1246
Rack travel in mm : 5.10 Tolerance mm : +- 0.10	Rack travel in mm : 12.80 Tolerance mm : +- 2.00
Del. quantity	+
cm3/1000 strokes : 17.0 Tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : + 3.0	+
Check tolerance	Rated speed rpm : 980
cm3/1000s. : +- 6.0 Spreed	+ Aneroid pressure + hPa : -
Tolerance	Del. quantity
cm3/1000 strokes : 8.0	+ cm3/1000 strokes : 250.0
Check tolerance	Tolerance
cm3/1000s. : 12.0	+ cm3/1000 strokes : +- 1.0
	Check tolerance cm3/1000s. : +- 4.0
(B) SETTING OF INJECTION PUMP	- Spreed
WITH GOVERNOR	+ Tolerance
	+ cm3/1000 strokes : 5.0
	+ Check tolerance
GUIDE SLEEVE TRAVEL	- cm3/1000s. : 9.0
Rated speed rpm : 1047 guide sleeve	
travel mm : 7.35	+ CONTROL LEVER
Tolerance mm : +- 0.15	†
Data diamend num 275	control lever
Rated speed rpm : 275 guide sleeve	+ position degree : 110.0 + tolerance degree : +- 4.0
travel mm : 2.04	T coterance degree . 1 4.0
Tolerance mm : +- 0.20	RATED SPEED
	rack travel mm : 12.55
Rated speed rpm : 820	Rated speed rpm : 1042
guide sleeve	+ Tolerance 1/min : +- 5
travel mm : 5.14 Tolerance mm : + 0.25	rack travel mm : 4.00
rocceance our . • U.E.	Rated speed rpm : 1150
Rated speed rpm : 480	Tolerance 1/min : + 15

rack travel mm Tolerance mm Rated speed rpm	: 0.70 : ← 0.70 : 1250
LOW IDLE	
control lever position degree tolerance degree	: 75.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 175
CRT mm min.	: > 7.50
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : 5.10 : ← 0.10
Rated speed rpm	: 350
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 980 : 13.55 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.05 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 600 : 12.35 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 500 : 11.90 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 980 : 13.70 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm	: 980 : 1500 : 13.55

Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 980 : - : 8.20 : +- 0.10
MEASUREMENT	
Rated speed rpm	: 980
Pressure hPa rack travel mm Tolerance mm	: 820 : 12.25 : +- 0.05
Pressure hPa rack travel mm Tolerance mm	: 400 : 9.40 : + 0.15
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	:
Rated speed rpm Del. quantity	
cm3/1000 strokes Tolerance	
cm3/1000 strokes Check tolerance	
cm3/1000s. Spreed	: +- 5.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000S.	: 12.0
rack travel mm Tolerance mm	: 12.35 : + 0.10
Aneroid pressure hPa	: -
Rated speed rpm Del. quantity	: 600
cm3/1000 strokes Tolerance	: 144.0
cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000S.	: +- 4.0
LOW IDLE	

Tolerance mm : \leftarrow 0.05

Rated speed rpm	:		275
Rack travel in mm	:		5.10
Tolerance mm Del. quantity	•	-	0.10
cm3/1000 strokes	:		17.0
Tolerance cm3/1000 strokes	:	+-	3.0
Check tolerance cm3/1000s.	:	+-	6.0
Spreed			
Tolerance cm3/1000 strokes Check tolerance	:		8.0
cm3/1000s.	•		12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.05.98 Test oil : ISO 4113

Combination No. : 0 402 676 839

Injection pump

Pump designation : PE6P120A320LS7898 EP type number : 0 412 626 957

Governor

Governer design. : RSV350...850P0A683

Governer no. : 0 421 833 602

Cust. part No. : 0280743102

Customer-spec. information Customer : MB-NFZ Motor : 0M441 A Power KW : 165.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 220 Tolerance l/h : +- 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

bar : 208.5 Tolerance bar : ← 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter :

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 20.50Tolerance mm : + 0.50

Firing order : 6-3-5-2-4-

: 0-60-120-180-240 Phasing

: -300

Tolerance : **←** 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 850

B01

Dool traval in my 12 70	†
Rack travel in mm : 12.70 Tolerance mm : +- 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 191.0	Rated speed rpm : 850 Aneroid pressure
Tolerance cm3/1000 strokes : +- 1.0	hPa : 1000 Del. quantity - cm3/1000 strokes : 191.0
Check tolerance	
cm3/1000s. : +- 4.0 Spreed	
spreed	Tolerance
Tolerance cm3/1000 strokes : 6.0	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 10.0
Check tolerance cm3/1000S. : 10.0	
	CONTROL LEVER
Rated speed rpm : 350	control lever
, ,	position degree : 89.0
Rack travel in mm: 5.20	+ tolerance degree : +- 4.0
Tolerance mm : +- 0.10	†
Del. quantity cm3/1000 strokes : 19.0	ASSEMBLY GOVERNOR SETTING
Tolerance	ASSEMBLI GOVERNOR SETTEME
cm3/1000 strokes : +- 3.0	Rated speed rpm : 875
Check tolerance	+ rack travel mm : 11.70
cm3/1000s. : +- 6.0	+
Spreed	+ Rated speed rpm : 940
Tolerance cm3/1000 strokes : 8.0	+ Tolerance 1/min : +- 4 + rack travel mm : 4.00
cm3/1000 strokes : 8.0 Check tolerance	T rack travet mm : 4.00
cm3/1000s. : 12.0	rack travel mm : 0.85
	+ Tolerance imm : + 0.55
	+ Rated speed rpm : 1050
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	‡
	+ Rated speed rpm : 876
	rack travel mm : 11.70
GUIDE SLEEVE POSITION	Rated speed rpm : 941
00000	+ Tolerance 1/min : +- 4
	† rack travel mm : 4.00
control lever	0.85
position degree : - 3	rack travel mm : 0.85
Rated speed rpm : 800	Tolerance mm : + 0.55 + Rated speed rpm : 1050
Rack travel in mm: 0.50	Harca Speca (piii . 1050
Tolerance mm : + 0.20	+
	Rated speed rpm : 877
governor spring	rack travel mm : 11.70
pre-tension	Rated speed rpm : 942
click setting x : 3.25	Rated speed rpm : 942 Tolerance 1/min : +- 4
	rack travel mm : 4.00
	•

		1
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55 : 1050	rack travel mm : 2.00 Rated speed rpm : 395 SET IDLE AUXILIARY SPRING
		+ SEL INCE WOXILIAM SEKING
Rated speed rpm rack travel mm	: 878 : 11.70	rack travel mm : 2.00
Rated speed rpm Tolerance 1/min rack travel mm	: +- 4 : 4.00	TORQUE CONTROL Rated speed rpm : 850 rack travel mm : 12.70 Tolerance mm : +- 0.05
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 1050	Rated speed rpm : 600 rack travel mm : 12.70 Tolerance mm : + 0.10
Rated speed rpm rack travel mm Rated speed rpm		ANEROID/ALTITUDE COMPENSATOR TEST
Tolerance 1/min rack travel mm	: +- 4	SETTING
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 1050	Rated speed rpm : 500 Pressure hPa : 1000 rack travel mm : 12.70 Tolerance mm : +- 0.05
Rated speed rpm rack travel mm	: 880 : 11.70	Rated speed rpm : 500 Pressure hPa : - rack travel mm : 11.00 Tolerance mm : - 0.15
Rated speed rpm Tolerance 1/min rack travel mm	: 945 : + 4 : 4.00	+ Tolerance mm : → 0.15 + MEASUREMENT
rack travel mm Tolerance mm	: 0.85 : + 0.55	Rated speed rpm : 500
Rated speed rpm	: 1050	Pressure hPa : 380
LOW IDLE		Pressure hPa : 450 rack travel mm : 12.05
control lever position degree tolerance degree		+ Tolerance mm : + 0.15 +
Setting point w/o	out bumper spring	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 100	
CR: mm min.	: > 19.00	Aneroid pressure hPa : 1000 Rated speed rpm : 600 Del. quantity cm3/1000 strokes : 190.0 Tolerance
Testing:		Del. quantity cm3/1000 strokes : 190.0
Rated speed rpm rack travel mm Tolerance mm	: 5.20	Tolerance : + 3.0

Check tolerance : +- 6.0 cm3/1000s. Spreed Tolerance 8.0 cm3/1000 strokes : Check tolerance cm3/1000s. 12.0 Aneroid pressure hPa 500 Rated speed rpm Del. quantity cm3/1000 strokes : 145.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance : +cm3/1000s. 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0 STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 190.0 Tolerance cm3/1000 strokes : \leftarrow 10.0 Check tolerance cm3/1000s. : **←** 14.0 LOW IDLE 350 Rated speed rpm : Rack travel in mm : 5.20 Tolerance mm : \leftarrow 0.10 Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/10005. : +-6.0

End of test specification sheet

Spreed Tolerance

Check tolerance cm3/1000s.

cm3/1000 strokes : 8.0

12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 18.05.98 : ISO 4113

Combination No. : 9 400 085 382

Injection pump

Pump designation : PES6A100D120RS2869

EP type number : 9 400 084 038

Governor

Governer design. : RQV350...1100AB1303R

Governer no. : 9 420 080 381

Cust. part No. : 3356052

Customer-spec. information

Customer : CUMMINS

: 6 CTAA 215 hp Motor

Power KW : 159.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.60 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 : **←** 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance "NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 8.50 Tolerance : +- 0.10

Check

tolerance °NW : +- 0.23

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel : 10.50 Tolerance mm : + 1.50 Difference ° CS : 4.00

BASIC SETTING

Rated speed rpm	: 1100	<pre>duide sleeve travel mm</pre>
Rack travel in mm Tolerance mm	: 12.75 : ← 0.05	Rated speed rpm : 600
Del. quantity cm3/1000 strokes	: 145.5	travel mm : 3.65 Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes	: + 1.0	Rated speed rpm : 1350 guide sleeve travel mm : 8.35
Check tolerance cm3/1000s.	: + 3.0	Tolerance mm : +- 0.25
Spreed		GUIDE SLEEVE POSITION
Tolerance cm3/1000 strokes	: 3.5	control lever position degree : - 1
Check tolerance cm3/1000s.	: 8.0	Rated speed rpm : 1360 Rack travel in mm : 16.50
	•	+ Tolerance mm : +- 1.30
Rated speed rpm	: 350	FULL LOAD DELIVERY AT FULL LOAD STOP
	: 5.40 : + 0.10	+ Rated speed rpm : 1100
Del. quantity cm3/1000 strokes	: 17.5	+ Aneroid pressure + hPa : 1100
Tolerance cm3/1000 strokes		Del. quantity cm3/1000 strokes : 145.5
	: +- 4.5	Tolerance cm3/1000 strokes : + 1.0
Spreed Tolerance cm3/1000 strokes	: 5.5	+ Check tolerance + cm3/1000s. : + 3.0 + Spreed
Check tolerance cm3/1000s.	: 9.0	Tolerance + cm3/1000 strokes : 3.5
		+ Check tolerance + cm3/1000s. : 8.0
(B) SETTING OF INJU WITH GOVERNOR	ECTION PUMP	‡
OUT DE OU SEUE TOAUS		CONTROL LEVER
GUIDE SLEEVE TRAVEL	_	† control lever
Rated speed rpm guide sleeve		position degree : 55.0 tolerance degree : +- 4.0
travel mm Tolerance mm	: 4.75 : +- 0.25	control lever
Rated speed rpm :		+ position degree : 110.0 + tolerance degree : +- 4.0 +
guide sleeve travel mm Tolerance mm	: 5.90 : +- 0.10	RATED SPEED - rack travel mm : 11.70 - Rated speed rpm : 1170
Rated speed rpm	: 350	+ Rated speed rpm : 1770 + Tolerance 1/min : +- 5 +

rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm	: 1350 : + 15 : 0.50 : + 0.50
LOW IDLE	
control lever position degree tolerance degree	: 68.0 : + 4.0
control lever position degree tolerance degree	: 13.0 : +- 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 100
CRT mm min.	: > 8.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 5.40 : + 0.10
Rated speed rpm	: 375
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1100 : 12.75 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 800 : 12.75 : + 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1100 : 12.75 : +- 0.05
Rated speed rpm Pressure hPa	: 500 : –

MEASUREMENT					
Rated speed rpm	: 500				
Pressure hPa rack travel mm Tolerance mm	: 690 : 2.25 : + 0.15				
Pressure hPa rack travel mm Tolerance mm	: 300 : 0.70 : +- 0.10				
Start interlock					
Rated speed rpm Rated speed rpm	: > 100 : < 270				
Check speed 1/min Check	; > 80				
speed 1/min	: < 290				
FUEL DELIVERY CHA	RACTERISTICS				
Aneroid pressure hPa Rated speed rpm	: 1100 : 800				
Del. quantity cm3/1000 strokes Tolerance	: 148.0				
cm3/1000 strokes Check tolerance	: ← 2.0				
cm3/1000s.	: +- 4.0				
Aneroid pressure					
hPa Rated speed rpm Del. quantity	: – : 500				
cm3/1000 strokes Tolerance	: 82.0				
cm3/1000 strokes Check tolerance	: +- 1.0				
cm3/1000s.	: ← 3.0				
STARTING FUEL DELIVERY					
Rated speed rpm	400				
rack travel mm Tolerance mm	: 100 : 20.00 : +- 1.00				
	: 20.00 : +- 1.00				

Check tolerance			
cm3/1000s.	•	+-	11.0

LOW IDLE

Rated speed rpm	:			350		
Rack travel in mm Tolerance mm Del. quantity	-			5.40 0.10		
cm3/1000 strokes Tolerance	:			17.5		
cm3/1000 strokes Check tolerance	:	+	_	2.0		
cm3/1000s. Spreed	:	+	-	4.5		
Tolerance cm3/1000 strokes Check tolerance	:			5.5		
cm3/1000s.	:			9.0		

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 20.05.98 : ISO 4113

Combination No. : 0 400 865 030

Injection pump

Pump designation : PES5A95D410/3RS2935

EP type number : 0 410 895 970

Governor

Governer design. : RSV550...900A1C953L

Governer no. : 0 420 232 643

Cust. part No. : 0423 2529 KY

Customer-spec. information

Customer : KHD

: F5L913 COM1 Motor

Power KW

: 56.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

har

: 173.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.00 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-3-5-4-2

: 0-72-144-216-288 : +- 0.50 Phasing

Tolerance

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 11.00 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s.

: +- 3.0

Spreed

	•	0h 1	
Tolerance	‡	Check tolerance cm3/1000s.	: 8.0
cm3/1000 strokes :	3.5		
Check tolerance cm3/1000s. :	8.0	CONTROL LEVER	
		control lever	
Rated speed rpm :	550	position degree tolerance degree	
Rack travel in mm :			
Tolerance mm : Del. quantity	+ 0.10	ASSEMBLY GOVERNOR	SETTING
cm3/1000 strokes : Tolerance	14.0	Rated speed rpm rack travel mm	: 895 · 10 00
cm3/1000 strokes :	+- 2.0		
Check tolerance cm3/1000s. :	+- 4.5	Rated speed rpm Tolerance 1/min	: 935
Spreed	- 4.3	rack travel mm	
Tolerance	t		0.05
cm3/1000 strokes : Check tolerance	5.5	rack travel mm Tolerance mm	: 0.85 : +- 0.55
cm3/1000s. :	9.0	Tolerance mm Rated speed rpm	: 1110
	İ		
(B) SETTING OF INJE	CTION PUMP	Rated speed rpm	: 896
WITH GOVERNOR	†	rack travel mm	: 10.00
	Į	Rated speed rpm	: 936
		Tolerance 1/min	: +- 5
GUIDE SLEEVE POSITI	ON +	rack travel mm	: 4.00
	+	rack travel mm	
control lever position degree :	FDEE	Tolerance mm Rated speed rpm	: +- U.55 · 1110
Rated speed rpm :	800	Nated Speed 1 piii	. 7710
Rack travel in mm :	0.50	Rated speed rpm	: 897
Tolerance mm :		rack travel mm	
governor spring	Į.,	Rated speed rpm	: 937
pre-tension	+	Tolerance 1/min	: +- 5
click setting x :	4.25	rack travel mm	: 4.00
		rack travel mm	: 0.85
FULL LOAD DELIVERY	AT FULL LOAD STOP	Tolerance mm Rated speed rpm	: ← 0.55 : 1110
Rated speed rpm :	850	nated speed i piii	. 1110
Aneroid pressure	+	Datad amand mus	. 909
hPa : Del. quantity	<u> </u>	Rated speed rpm rack travel mm	: 10.00
cm3/1000 strokes :	76.0		
Tolerance cm3/1000 strokes :	+ 1.0	Rated speed rpm Tolerance 1/min	
Check tolerance	}	rack travel mm	: 4.00
cm3/1000s. :	+ 3.0	rack traval mm	. 0.25
Spreed Tolerance	‡	rack travel mm Tolerance mm Rated speed rpm	: +- 0.55
cm3/1000 strokes :	3.5	Rated speed rpm	: 1110

B10

Rated speed rpm	: 899
rack travel mm	: 10.00
Rated speed rpm	: 939
Tolerance 1/min	: + 5
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1110
Rated speed rpm	: 900
rack travel mm	: 10.00
Rated speed rpm	: 940
Tolerance 1/min	: +- 5
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: ← 0.55
Rated speed rpm	: 1110

LOW IDLE

control lever position degree : 80.0 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 550 rack travel mm : 5.50 Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

Testing:

Rated speed rpm : 550 rack travel mm : 6.00 Tolerance mm : + 0.10

rack travel mm : 2.00 Rated speed rpm : 610 Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 850 rack travel mm : 11.00 Tolerance mm : +- 0.05

Rated speed rpm : 500

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : + 0.75 Del. quantity cm3/1000 strokes : 125.0 Tolerance cm3/1000 strokes : + 7.5 Check tolerance cm3/1000s. : + 10.0

LOW IDLE

Rated speed rpm : Rack travel in mm : 6.00 : +- 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 14.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 : +-Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.02.98 Test oil : ISO 4113

Combination No. : 0 400 876 407

Injection pump

Pump designation : PES6A95D41ORS2835 EP type number : 0 410 896 896

Governor

Governer design. : RSV650...1050A8C2263

: -3L

Governer no. : 0 420 232 586

Cust. part No. : 87 801 606

Customer—spec. information Customer : NH Motor : 7.5 L Power KW : 138.0

. 155.5

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : \leftarrow 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.60 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 14.00Tolerance mm : $\leftarrow 0.10$

Del. quantity

cm3/1000 strokes : 141.0

Tolerance

cm3/1000 strokes : +- 1.0

B12

Check tolerance cm3/1000s. : +- 3.0	+ Check tolerance + cm3/1000S. : +- 3.0 - Spreed
Spreed	Tolerance cm3/1000 strokes : 3.5
Tolerance cm3/1000 strokes : 3.5	Check tolerance cm3/1000S. : 6.0
Check tolerance cm3/1000s. : 6.0	CONTROL A FLAT
	CONTROL LEVER
Rated speed rpm : 650	control lever position degree : 91.0 tolerance degree : +- 4.0
Rack travel in mm : 5.50 Tolerance mm : +- 0.10	ADDENDLY CONTRAIGN CONTRAIG
Del. quantity cm3/1000 strokes : 22.0	ASSEMBLY GOVERNOR SETTING
Tolerance : + 2.0	Rated speed rpm : 1092 rack travel mm : 11.80
Check tolerance cm3/1000s. : + 3.5	Rated speed rpm : 1122 Tolerance 1/min : +- 5
Spreed Tolerance	rack travel mm : 4.00
cm3/1000 strokes : 3.5 - Check tolerance -	† + rack travel mm : 0.85
cm3/1000s. : 5.5	Tolerance mm : +- 0.55 Rated speed rpm : 1250
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1093
WITH GOACULOU	rack travel mm : 11.80
GUIDE SLEEVE POSITION -	Rated speed rpm : 1123 Tolerance 1/min : +- 5
dolde sectat 10311104	rack travel mm : 4.00
control lever	rack travel mm : 0.85
position degree : -3 - Rated speed rpm : 800 -	Tolerance mm : +- 0.55 Rated speed rpm : 1250
Rack travel in mm: 0.50 - Tolerance mm: + 0.20 -	Rated speed rpm : 1094
governor spring	rack travel mm : 11.80
pre-tension - click setting x : 2.50 -	Rated speed rpm : 1124 Tolerance 1/min : + 5
CLICK SELLING X . 2.30	rack travel mm : 4.00
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 0.85 Tolerance mm : + 0.55
Rated speed rpm : 750 - Aneroid pressure -	Rated speed rpm : 1250
hPa : 800 - Del. quantity	Rated speed rpm : 1095
cm3/1000 strokes : 141.0	rack travel mm : 11.80
cm3/1000 strokes : +- 1.0	Rated speed rpm : 1125 Tolerance 1/min : +- 5

rack travel mm : 4.00	+ Rated speed rpm : 1050
	+ rack travel mm : 12.5U
rack travel mm : 0.85	rack travel mm : 12.50 Tolerance mm : +- 0.10
Tolerance mm : +- 0.55	+
Rated speed rpm : 1250	Rated speed rpm : 1050
The second of th	rack travel mm : 12.80
	+ Tolerance mm : + 0.10
Datad aread mm . 1004	T Total acide min
Rated speed rpm : 1096 rack travel mm : 11.80	
rack travel mm : 11.80	Rated speed rpm : 960
	+ rack travel mm : 13.60
Rated speed rpm : 1126	rack travel mm : 13.60 Tolerance mm : +- 0.15
Tolerance 1/min : +- 5	+
rack travel mm : 4.00	
	+ ANEROID/ALTITUDE
rack travel mm : 0.85	+ COMPENSATOR TEST
Tolerance mm · +- 0.55	1
Tolerance mm : + 0.55 Rated speed rpm : 1250	
Rated Speed rpm : 1250	CETTING
	+ SETTING
	†
Rated speed rpm : 1097 rack travel mm : 11.80	+ Rated speed rpm : 500
rack travel mm : 11.80	+ Pressure hPa : 800
	Rated speed rpm : 500 Pressure hPa : 800 rack travel mm : 14.00
Rated speed rpm : 1127	Pressure hPa : 800 + rack travel mm : 14.00 + Tolerance mm : + 0.10
Tolerance 1/min : +- 5	
rack travel mm : 4.00	Rated speed rpm : 500
THE CHAPEC IIIII . 4.00	Proceure hPa
	Pressure hPa : - rack travel mm : 9.00 Tolerance mm : + 0.10
rack travel mm : 0.85	rack travel mm : 9.00
Tolerance mm : +- 0.55 Rated speed rpm : 1250	† Tolerance mm : + 0.10
Rated speed rpm : 1250	+
	+ MEASUREMENT
	 +
LOW IDLE	
LOW IDLE	Rated speed rpm : 500
LOW IDLE	Rated speed rpm : 500
	Rated speed rpm : 500
control lever	Rated speed rpm : 500
control lever position degree : 73.0	Rated speed rpm : 500
control lever	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : +- 0.20
control lever position degree : 73.0 tolerance degree : + 4.0	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : +- 0.20 Pressure hPa : 550
control lever position degree : 73.0	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : +- 0.20 Pressure hPa : 550 rack travel mm : 13.45
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : +- 0.20 Pressure hPa : 550
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 650	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : +- 0.20 Pressure hPa : 550 rack travel mm : 13.45
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 650	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : +- 0.20 Pressure hPa : 550 rack travel mm : 13.45
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 650 rack travel mm : 5.00	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : +- 0.20 Pressure hPa : 550 rack travel mm : 13.45
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 650 rack travel mm : 5.00	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : +- 0.20 Pressure hPa : 550 rack travel mm : 13.45
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 650 rack travel mm : 5.00 Tolerance mm : + 0.10	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : + 0.20 Pressure hPa : 550 rack travel mm : 13.45 Tolerance mm : + 0.05
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 650 rack travel mm : 5.00	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : + 0.20 Pressure hPa : 550 rack travel mm : 13.45 Tolerance mm : + 0.05
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 650 rack travel mm : 5.00 Tolerance mm : + 0.10 Testing:	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : + 0.20 Pressure hPa : 550 rack travel mm : 13.45 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 650 rack travel mm : 5.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 650	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : +- 0.20 Pressure hPa : 550 rack travel mm : 13.45 Tolerance mm : +- 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 650 rack travel mm : 5.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 650 rack travel mm : 5.50	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : +- 0.20 Pressure hPa : 550 rack travel mm : 13.45 Tolerance mm : +- 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa :
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 650 rack travel mm : 5.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 650	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : +- 0.20 Pressure hPa : 550 rack travel mm : 13.45 Tolerance mm : +- 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : Rated speed rpm : 500
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 650 rack travel mm : 5.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 650 rack travel mm : 5.50 Tolerance mm : + 0.10	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : +- 0.20 Pressure hPa : 550 rack travel mm : 13.45 Tolerance mm : +- 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : Rated speed rpm : 500 Del. quantity
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 650 rack travel mm : 5.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 650 rack travel mm : 5.50 Tolerance mm : + 0.10 rack travel mm : 2.00	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : +- 0.20 Pressure hPa : 550 rack travel mm : 13.45 Tolerance mm : +- 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 77.0
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 650 rack travel mm : 5.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 650 rack travel mm : 5.50 Tolerance mm : + 0.10	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : +- 0.20 Pressure hPa : 550 rack travel mm : 13.45 Tolerance mm : +- 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : Rated speed rpm : 500 Del. quantity
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 650 rack travel mm : 5.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 650 rack travel mm : 5.50 Tolerance mm : + 0.10 rack travel mm : 2.00	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : +- 0.20 Pressure hPa : 550 rack travel mm : 13.45 Tolerance mm : +- 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 77.0
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 650 rack travel mm : 5.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 650 rack travel mm : 5.50 Tolerance mm : + 0.10 rack travel mm : 5.50 Tolerance mm : 2.00 Rated speed rpm : 780	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : + 0.20 Pressure hPa : 550 rack travel mm : 13.45 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 77.0 Tolerance cm3/1000 strokes : + 2.0
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 650 rack travel mm : 5.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 650 rack travel mm : 5.50 Tolerance mm : + 0.10 rack travel mm : 5.50 Tolerance mm : 2.00 Rated speed rpm : 780	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : + 0.20 Pressure hPa : 550 rack travel mm : 13.45 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 77.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 650 rack travel mm : 5.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 650 rack travel mm : 5.50 Tolerance mm : + 0.10 rack travel mm : 5.50 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 780 Tolerance 1/min : + 30	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : + 0.20 Pressure hPa : 550 rack travel mm : 13.45 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 77.0 Tolerance cm3/1000 strokes : + 2.0
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 650 rack travel mm : 5.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 650 rack travel mm : 5.50 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 780 Tolerance 1/min : + 30	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : + 0.20 Pressure hPa : 550 rack travel mm : 13.45 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 77.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 650 rack travel mm : 5.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 650 rack travel mm : 5.50 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 780 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 750	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : + 0.20 Pressure hPa : 550 rack travel mm : 13.45 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 77.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 650 rack travel mm : 5.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 650 rack travel mm : 5.50 Tolerance mm : 5.50 Tolerance mm : - 0.10 rack travel mm : 5.50 Tolerance mm : 2.00 Rated speed rpm : 780 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 750 rack travel mm : 750 rack travel mm : 14.00	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : + 0.20 Pressure hPa : 550 rack travel mm : 13.45 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 77.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 650 rack travel mm : 5.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 650 rack travel mm : 5.50 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 780 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 750	Rated speed rpm : 500 Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : + 0.20 Pressure hPa : 550 rack travel mm : 13.45 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 77.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance

:		100
:		20.00
:	+-	0.20
:		197.0
•	+-	10.0
:	+-	13.0
	•	

LOW IDLE

Rated speed rpm	•		650
Rack travel in mm Tolerance mm	•	+-	5.50 0.10
Del. quantity cm3/1000 strokes Tolerance	:		22.0
cm3/1000 strokes Check tolerance	:	+	2.0
cm3/1000s. Spreed	•	+-	3.5
Tolerance cm3/1000 strokes Check tolerance	:		3.5
cm3/1000s.	:		5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 18.05.98 : ISO 4113

Combination No. : 0 401 078 002

Injection pump

Pump designation : PE8A100b320RS3009 EP type number : 0 411 008 002

Governor

Governer design. : RSV300...1150A1C489R

Governer no. : 0 420 233 190

Cust. part No. :

Customer-spec. information Customer : MWM

Motor

: D232-8

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.0

Test nozzle holde

: 0 681 343 009 assembly -

Opening pressure

173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

B16

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

2.05 Prestroke mm : : +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-8-5-4-7

: - 2- 3- 6

: 0-30-90-120-180 Phasing

: -210-270-300

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

BASIC SETTING

Del. quantity

cm3/1000 strokes : 91.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance cm3/1000s.

: 6.0

Rated speed rpm : 300	Rated speed rpm : 1175 Tolerance 1/min : +- 5
Rack travel in mm: 5.50	
Tolerance mm : + 0.10	rack travel mm : 4.00
Del. quantity	Rated speed rpm : 1215
cm3/1000 strokes : 17.5	Tolerance 1/min : +- 15
Tolerance	Total dice Miniff , 1 19
cm3/1000 strokes : +- 3.0	mark Americal man O OF
	rack travel mm : 0.85
Check tolerance + 5.5 + 5.5	Tolerance mm : +- 0.55
	Rated speed rpm : 1400
Spreed	
Tolerance +	rack travel mm : 4.00
cm3/1000 strokes : 3.5	
Check tolerance +	
cm3/1000s. : 5.0 +	
+	
+	LOW IDLE
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR +	
+	control lever
+	position degree : 25.0
	tolerance degree : +- 4.0
GUIDE SLEEVE POSITION +	
+	Setting point w/out bumper spring
1	southing points around maniper up mig
control lever	Rated speed rpm : 300
position degree : -3	
Rated speed rpm : 800	rack travel mm : 6.00 Tolerance mm : +- 0.10
That car speca i piii i soos	rocci di ice mir
Rack travel in mm: 0.50	Testing:
Tolerance mm : + 0.20	resting.
Total arice min . 1- 0.20	Dated around now . 700
T	Rated speed rpm : 300
FULL LOAD DEL THERY AT FULL LOAD STOR	rack travel mm : 5.50 Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
Rated speed rom : 1130	2.00
the same all same at least the	rack travel mm : 2.00
Aneroid pressure	Rated speed rpm : 515
hPa : - +	Tolerance 1/min : +- 30
Del. quantity +	
cm3/1000 strokes : 91.0	
Tolerance	
cm3/1000 strokes : + 1.0	
Check tolerance +	
cm $3/1000$ s. : $\leftarrow 3.0$	
Spreed	
Tolerance	STARTING FUEL DELIVERY
cm3/1000 strokes : 3.5 +	
Check tolerance +	Rated speed rpm : 100
cm3/1000s. : 6.0 +	rack travel mm : 16.00
+	Tolerance mm : +- 0.30
+	
CONTROL LEVER	
+	
control lever	LOW IDLE
position degree : 60.0 +	
tolerance degree : +- 4.0	Rated speed rpm : 300
+	, , , , , , , , , , , , , , , , , , , ,
RATED SPEED	Rack travel in mm : 5.50
rack travel mm : 8.50	Tolerance mm : +- 0.10

Del. quantity cm3/1000 strokes	:	17.5
Tolerance cm3/1000 strokes	; +-	3.0
Check tolerance cm3/1000s.	: +-	5.5
Spreed Tolerance		
cm3/1000 strokes Check tolerance	:	3.5
cm3/1000s.	:	5.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 27.05.98 Test oil : 27.05.98

Combination No. : 0 400 866 221

Injection pump

Pump designation : PES6A95D410/3RS2876

EP type number : 0 410 896 886

Governor

Governer design. : RSV325...900A7C720L

Governer no. : 0 420 232 339

Cust. part No. : 0 423 1366 KY0150

: -17

Customer-spec. information : KHD

Customer

Motor

: BF6L913C

Power KW : 151.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp, °C

: 40

Tolerance °C

: ← 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar

Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.65 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance "NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm: 13.70 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 138.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s.

: +- 3.0

B19

Spr ee d	
Tolerance cm3/1000 strokes	: 3.5
Check tolerance cm3/1000s.	: 8.0
Rated speed rpm	: 325
Rack travel in mm Tolerance mm	: 5.00 : + 0.10
Del. quantity cm3/1000 strokes	: 16.0
Tolerance cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000S. Spreed	: +- 4.5
Tolerance cm3/1000 strokes	: 5.5
Chash talamass	
cm3/1000s. (B) SETTING OF INJ	: 9.0 PECTION PUMP
WITH GOVERNOR GUIDE SLEEVE POSIT	TION : - 3
cm3/1000s. (B) SETTING OF INLWITH GOVERNOR GUIDE SLEEVE POSIT control Lever position degree Rated speed rpm Rack travel in mm	ECTION PUMP TION : - 3 : 800
cm3/1000s. (B) SETTING OF INLWITH GOVERNOR GUIDE SLEEVE POSIT control lever position degree Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension	TION : - 3 : 800 : 0.50 : +- 0.20
cm3/1000s. (B) SETTING OF INLWITH GOVERNOR GUIDE SLEEVE POSIT control lever position degree Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x	TION : - 3 : 800 : 0.50 : +- 0.20
cm3/1000s. (B) SETTING OF INLWITH GOVERNOR GUIDE SLEEVE POSIT control lever position degree Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x	ECTION PUMP FION : - 3 : 800 : - 0.50 : + 0.20 : 5.00

Tolerance cm3/1000 strokes Check tolerance cm3/1000S.	: 3.5 : 8.0
CONTROL LEVER	
control lever position degree tolerance degree	: 108.0 : +- 4.0
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 12.70 : 945 : + 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 975 : +- 15
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55 : 1100
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 985 : + 15
LOW IDLE	
LOW IDLE control lever position degree tolerance degree	: 73.0 : ← 4.0
control lever position degree tolerance degree	
control lever position degree tolerance degree	: ← 4.0
control lever position degree tolerance degree Setting point w/c Rated speed rpm rack travel mm	: + 4.0 out bumper spring : 325 : 4.50
control lever position degree tolerance degree Setting point w/c Rated speed rpm rack travel mm Tolerance mm	: + 4.0 out bumper spring : 325 : 4.50
control lever position degree tolerance degree Setting point w/c Rated speed rpm rack travel mm Tolerance mm Testing: Rated speed rpm rack travel mm	: + 4.0 out bumper spring : 325 : 4.50 : + 0.10

Tolerance

Spreed

Tolerance

Del. quantity cm3/1000 strokes : 138.0

cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0

Tolerance mm : +- 0.05

Rated speed rpm : 600 rack travel mm : 13.75 Tolerance mm : + 0.05

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm : 14.50 : +- 0.20 Tolerance mm

Del. quantity

cm3/1000 strokes : 125.0

Tolerance

cm3/1000 strokes : + 7.5

Check tolerance

cm3/1000s. : +- 10.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm: 5.00 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed

Tolerance

cm3/1000 strokes : 5.5

Check tolerance

: 9.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 21.05.98 : ISO 4113

Combination No. : 0 400 866 228

Injection pump

Pump designation : PES6A95D410/3RS2909

EP type number : 0 410 896 883

Governor

Governer design. : RSV325...1250A5C872L

Governer no. : 0 420 232 627

Cust. part No. : 0423 2042 KY

Customer-spec. information Customer : KHD-DMI : BF6L 913C : 141.0 Motor

Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

: 173.5

Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside do eter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

er values

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 2.60 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.80

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 105.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : \leftarrow 3.0

Spreed

Tolerance cm3/1000 strokes : 3.5 Check tolerance	Check tolerance cm3/1000s. : 8.0
cm3/1000s. : 8.0	
	CONTROL LEVER
Rated speed rpm : 325	control lever position degree : 106.0 tolerance degree : +- 4.0
Rack travel in mm : 4.80 Tolerance mm : + 0.10	+ RATED SPEED
Del. quantity cm3/1000 strokes : 11.5	rack travel mm : 10.80
cm3/1000 strokes : 11.5 Tolerance	Rated speed rpm : 1295 Tolerance 1/min : +- 5
cm3/1000 strokes : +- 2.0 Check tolerance	+ + rack travel mm : 4.00
cm3/1000s. : +- 4.5	Rated speed rpm : 1355
Spreed Tolerance	Tolerance 1/min : +- 15
cm3/1000 strokes : 5.5	rack travel mm : 0.85 Tolerance mm : +- 0.55
Check tolerance cm3/1000s. : 9.0	Tolerance mm : +- 0.55 Rated speed rpm : 1515
	+ rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1365
WITH GOVERNOR	Tolerance 1/min : +- 15
	<u>†</u>
GUIDE SLEEVE POSITION	
	LOW IDLE
control lever	+
control lever position degree : FREE Rated speed rpm : 800	control lever position degree : 71.0
position degree : FREE - Rated speed rpm : 800 -	control lever
position degree : FREE -	control lever position degree : 71.0
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring	control lever position degree : 71.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension	control lever position degree : 71.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 4.30
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring	control lever position degree : 71.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 4.30 Tolerance mm : + 0.10
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension	control lever position degree : 71.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 4.30
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 71.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 4.30 Tolerance mm : + 0.10
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure	control lever position degree : 71.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 4.30 Tolerance mm : + 0.10 Rated speed rpm : 100
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : -	control lever position degree : 71.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 4.30 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing:
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 105.0	control lever position degree : 71.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 4.30 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 4.80
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity	control lever position degree : 71.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 4.30 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 4.80 Tolerance mm : +- 0.10
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 105.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	control lever position degree : 71.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 4.30 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 4.80 Tolerance mm : + 0.10 rack travel mm : 2.00
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 105.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed	control lever position degree : 71.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 4.30 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 4.80 Tolerance mm : +- 0.10
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 105.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0	control lever position degree : 71.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 4.30 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 4.80 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 355

Rated speed rpm rack travel mm Tolerance mm	: 1250 : 11.80 : +- 0.05	
Rated speed rpm rack travel mm Tolerance mm	: 750 : 11.85 : + 0.10	
ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1450 : 11.80 : ← 0.10	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 10.00 : +- 0.10	
MEASUREMENT		
Rated speed rpm	: 500	
Pressure hPa rack travel mm Tolerance mm	: 470 : 11.30 : +- 0.05	
Pressure hPa rack travel mm Tolerance mm	: 320 : 10.70 : +- 0.10	
FUEL DELIVERY CHARACTERISTICS		
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	
Aneroid pressure		

hPa

Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 67.

67.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 21.05.98 : ISO 4113

Combination No. : 0 400 866 232

Injection pump

Pump designation : PES6A95D410/3RS2909

EP type number : 0 410 896 883

Governor

Governer design. : RSV325...1250A5C876L

Governer no. : 0 420 232 631

Cust. part No. : 0423 2063 KY

Customer-spec. information Customer : KHD-DMI Motor : BF6L 913C

Power KW : 141.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 : +- 2.0 Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 : + 1.5 bar Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.60 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.80 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 105.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

: +- 3.0 cm3/1000s.

Spreed

Tolerance cm3/1000 strokes :	3.5	
Check tolerance cm3/1000s.	8.0	CONTROL LEVER
	725	control lever podition degree : 106.0 tolerance degree : +- 4.0
Rated speed rpm :	+	RATED SPEED
Rack travel in mm : Tolerance mm : H Del. quantity	+ 4.80 - 0.10	rack travel mm : 10.80 Rated speed rpm : 1295 Tolerance 1/min : +- 5
cm3/1000 strokes : Tolerance	11.5	rack travel mm : 4.00
cm3/1000 strokes : 4 Check tolerance	⊢ 2.0	Rated speed rpm : 1355 Tolerance 1/min : +- 15
Spreed	⊢ 4.5	rack travel mm : 0.85
Tolerance cm3/1000 strokes : Check tolerance	5.5	Tolerance mm : +- 0.55 Rated speed rpm : 1515
cm3/1000s.	9.0	rack travel mm : 4.00 Rated speed rpm : 1365 Tolerance 1/min : +- 15
(B) SETTING OF INJECT WITH GOVERNOR	TION PUMP	roterance minimum
GUIDE SLEEVE POSITION		LOW IDLE
	‡	control lever
control lever position degree : F Rated speed rpm :	REE +	position degree : 71.0 tolerance degree : + 4.0
•	0.50	Setting point w/out bumper spring
governor spring	5.30	Rated speed rpm : 325 rack travel mm : 4.30
pre-tension click setting x :	4 00	Tolerance mm : + 0.10
cerek secening x .		Rated speed rpm : 100
FULL LOAD DELIVERY AT	FULL LOAD STOP	CRT mm min. : > 19.50
Rated speed rpm : Aneroid pressure	1250	Testing:
hPa : Del. quantity	-	Rated speed rpm : 325 rack travel mm : 4.80
cm3/1000 strokes : Tolerance	105.0	Tolerance mm : + 0.10
cm3/1000 strokes : +	- 1.0	rack travel mm : 2.00
Check tolerance cm3/1000S. : + Spreed	- 3.0	Rated speed rpm : 455 Tolerance 1/min : +- 30
Tolerance cm3/1000 strokes :	3.5	TORQUE CONTROL
Check tolerance cm3/1000s. :	8.0 +	Rated speed rpm : 1250 rack travel mm : 11.80

Tolerance mm : \leftarrow 0.05 Rated speed rpm : 750 rack travel mm : 11.85 Tolerance mm : +- 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa : 1450 rack travel mm : 11.85 Tolerance mm : +- 0.10 Rated speed rpm : 500 Pressure hPa : - rack travel mm : 10.00 : +- 0.10 Tolerance mm MEASUREMENT Rated speed rpm : 500 : 470 Pressure hPa rack travel mm : 11.30 : +- 0.05 Tolerance mm Pressure hPa : 320 rack travel mm : 10.75 Tolerance mm : + 0.10 FUEL DELIVERY CHARACTERISTICS Aneroid pressure Rated speed rpm : 750 rack travel mm : 11.85 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 104.0 Tolerance cm3/1000 strokes : \leftarrow 2.0 Check tolerance : +- 4.0 cm3/1000s. Aneroid pressure hPa Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 67.0

Check tolerance : +- 4.0 cm3/1000s. STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 13.70 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 125.0 Tolerance cm3/1000 strokes : +- 7.5Check tolerance cm3/1000s. : +- 10.0 LOW IDLE Rated speed rpm : 325 Rack travel in mm : 4.80 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 11.5 Tolerance cm3/1000 strokes : +- 2.0Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance : cm3/1000s. 9.0

End of test specification sheet

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 23.05.98 Edition Test oil : ISO 4113

Combination No. : 0 400 876 421

Injection pump

Pump designation : PES6A95D32ORS2848 EP type number : 0 410 896 892

Governor

Governer design. : RSV500...1100A5C2269

Governer no. : 0 420 233 338

Cust, part No. :

Customer-spec. information Customer : VALMET : 634 DS Motor Power KW : 140.0

TEST BENCH REQUIREMENTS

Inlet line : 2.3

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : ← 1.0

Prestroke mm : 2.55
Tolerance mm : + 0.05 Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Beginning of delivery differende

and maximum rack

travel : 10.50 Tolerance mm : + 1.50 Difference ° CS : 5.00

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.05 Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 133.0

B28

Tolerance cm3/1000 strokes : +- 1.0	+ Tolerance + cm3/1000 strokes : +- 1.0 - Check tolerance
Check tolerance cm3/1000s. : +- 3.0	cm3/1000s. : +- 3.0 Spreed Tolerance
Spreed	cm3/1000 strokes : 3.5 Check tolerance
Tolerance cm3/1000 strokes : 3.5	cm3/1000s. : 87
Check tolerance cm3/1000s. : 8.0	CONTROL LEVER
Rated speed rpm : 500	control lever position degree : 99.0 tolerance degree : + 4.0
Rack travel in mm: 4.30 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 21.0	RATED SPEED rack travel mm : 13.00 Rated speed rpm : 1145 Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 4.5 Spreed	rack travel mm : 4.00 Rated speed rpm : 1225 Tolerance 1/min : +- 15
Tolerance cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. : 9.0	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1300
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION	control lever position degree : 74.0 tolerance degree : +- 4.0
control lever position degree : - 3	Setting point w/out bumper spring
Rated speed rpm : 800	Rated speed rpm : 100
Rack travel in mm : 0.50 Tolerance mm : +- 0.20	CRT mm min. : > 19.50
governor spring	Testing:
pre-tension click setting x : 3.75	Rated speed rpm : 500 rack travel mm : 4.30 Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100	rack travel mm : 2.00 Rated speed rpm : 530 Tolerance 1/min : + 30
Aneroid pressure hPa : -	SET IDLE AUXILIARY SPRING
Del. quantity cm3/1000 strokes : 133.0	rack travel mm : 2.00

TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 14.05 Tolerance mm : + 0.05 Rated speed rpm : 700 rack travel mm : 14.60 Tolerance mm : + 0.10 Rated speed rpm : 975 rack travel mm : 14.30 Tolerance mm : + 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa : 900 rack travel mm : 14.30 Tolerance mm : + 0.10 Rated speed rpm : 500 Pressure hPa : - 0.10 Rated speed rpm : 500 Pressure hPa : - 0.10 Rated speed rpm : 500 Pressure hPa : 13.10 Tolerance mm : + 0.05 MEASUREMENT Rated speed rpm : 500 Pressure hPa : 550 rack travel mm : 13.20 Tolerance mm : + 0.10 Pressure hPa : 550 rack travel mm : 13.90 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 700 Del. quantity cm3/1000 strokes : 137.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s : + 4.0		
rack travel mm : 14.60 Tolerance mm : + 0.10 Rated speed rpm : 975 rack travel mm : 14.30 Tolerance mm : + 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa : 900 rack travel mm : 14.30 Tolerance mm : + 0.10 Rated speed rpm : 500 Pressure hPa : - rack travel mm : 13.10 Tolerance mm : + 0.05 MEASUREMENT S50 Rated speed rpm : 550 rack travel mm : 13.20 Tolerance mm : + 0.10 Pressure hPa : 655 rack travel mm : 13.90 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : - Rated speed rpm : 700 Del. quantity : - rom3/1000 strokes : 137.0 Tolerance : - cm3/1000 strokes : + 2.0 Chec	Rated speed rpm rack travel mm	: 14.05
rack travel mm : 14.30 Tolerance mm : + 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa : 900 rack travel mm : 14.30 Tolerance mm : + 0.10 Rated speed rpm : 500 Pressure hPa : - rack travel mm : 13.10 Tolerance mm : + 0.05 MEASUREMENT Rated speed rpm : 500 Pressure hPa : 550 rack travel mm : 13.20 Tolerance mm : + 0.10 Pressure hPa : 655 rack travel mm : 13.90 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : - Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 137.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance	rack travel mm	: 14.60
SETTING Rated speed rpm : 500 Pressure hPa : 900 rack travel mm : 14.30 Tolerance mm : + 0.10 Rated speed rpm : 500 Pressure hPa : - rack travel mm : 13.10 Tolerance mm : + 0.05 MEASUREMENT Rated speed rpm : 500 Pressure hPa : 550 rack travel mm : 13.20 Tolerance mm : + 0.10 Pressure hPa : 655 rack travel mm : 13.90 Tolerance mm : + 0.05 Aneroid pressure hPa : - Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 137.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance	rack travel mm	: 14.30
Rated speed rpm : 500 Pressure hPa : 900 rack travel mm : 14.30 Tolerance mm : + 0.10 Rated speed rpm : 500 Pressure hPa : - rack travel mm : 13.10 Tolerance mm : + 0.05 MEASUREMENT Rated speed rpm : 500 Pressure hPa : 550 rack travel mm : 13.20 Tolerance mm : + 0.10 Pressure hPa : 655 rack travel mm : 13.90 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : - Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 137.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance		
Pressure hPa : 900 rack travel mm : 14.30 Tolerance mm : + 0.10 Rated speed rpm : 500 Pressure hPa : - rack travel mm : 13.10 Tolerance mm : + 0.05 MEASUREMENT Rated speed rpm : 500 Pressure hPa : 550 rack travel mm : 13.20 Tolerance mm : + 0.10 Pressure hPa : 655 rack travel mm : 13.90 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : - Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 137.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance	SETTING	
Pressure hPa : - rack travel mm : 13.10 Tolerance mm : + 0.05 MEASUREMENT Rated speed rpm : 500 Pressure hPa : 550 rack travel mm : 13.20 Tolerance mm : + 0.10 Pressure hPa : 655 rack travel mm : 13.90 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : - Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 137.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance	Pressure hPa rack travel mm	: 900 : 14.30
Rated speed rpm : 500 Pressure hPa : 550 rack travel mm : 13.20 Tolerance mm : + 0.10 Pressure hPa : 655 rack travel mm : 13.90 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : - Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 137.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance	Pressure hPa rack travel mm	: – : 13.10
Pressure hPa : 550 rack travel mm : 13.20 Tolerance mm : + 0.10 Pressure hPa : 655 rack travel mm : 13.90 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : - Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 137.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance	MEASUREMENT	
rack travel mm : 13.20 Tolerance mm : + 0.10 Pressure hPa : 655 rack travel mm : 13.90 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : - Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 137.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance	Rated speed rpm	: 500
rack travel mm : 13.90 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : - Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 137.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance	rack travel mm	
Aneroid pressure hPa : - Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 137.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance	rack travel mm	: 13.90
hPa : - Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 137.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance	FUEL DELIVERY CHA	RACTERISTICS
Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 137.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance		
cm3/1000 strokes : 137.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance	Rated speed rpm	
cm3/1000 strokes : +- 2.0 Check tolerance	cm3/1000 strokes	: 137.0
	cm3/1000 strokes	: +- 2.0
		: +- 4.0

rack travel mm Tolerance mm	: 14.30 : +- 0.10
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 103.0
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 20.25 : +- 0.75 : 205.0
LOW IDLE	
Rated speed rpm	: 500
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +- 0.10 : 21.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 23.05.98 : ISO 4113

Combination No. : 0 400 876 436

Injection pump

Pump designation : PES6A95D32ORS2684 EP type number : 0 410 896 917

Governor

Governer design. : RSV325...1050A00899R

Governer no.

: 0 420 233 352

Cust. part No. : 8363 54719

Customer-spec. information Customer : SISU : 612 DS Motor

Power KW

: 148.0

TEST BENCH REQUIREMENTS

Inlet line

: 3.2

Test oil inlet

temp. °C

40 Tolerance °C

2.0

: 1 417 413 000 Overflow valve

Inlet press. bar : 1.0

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar 173.5 : +- 1.5 Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0 x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 2.55 : + 0.05Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50

Tolerance mm : \leftarrow 1.50

: 1-5-3-6-2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : **←** 0.75

Beginning of delivery differende

Difference ° CS : 5.00

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 8.00

Tolerance mm : ← 0.05

Del. quantity

cm3/1000 strokes : 66.0

Tolerance

cm3/1000 strokes : +- 1.0

Ch I. Aal	
Check tolerance cm3/1000s.	: 3.0
Spr ee d	
-p. 000	
Tolerance	
cm3/1000 strokes	: 3.5
Check tolerance	
cm3/100ÚS.	: 8.0
Rated speed rpm	: 325
rated speed rpill	. 323
Rack travel in mm	
Tolerance mm	: +- 0.10
Del. quantity	. 15.0
cm3/1000 strokes Tolerance	: 15.0
cm3/1000 strokes	: +- 2.0
Check tolerance	
cm3/1000s.	: +- 4.5
Spreed Tolerance	
cm3/1000 strokes	: 5.5
Check tolerance	
SILCON COLCIONIC	: 9.0
cm3/1000s. (B) SETTING OF IN. WITH GOVERNOR	JECTION PUMP
cm3/1000s. (B) SETTING OF IN. WITH GOVERNOR	
cm3/1000s. (B) SETTING OF IN.	
cm3/1000s. (B) SETTING OF IN. WITH GOVERNOR GUIDE SLEEVE POSIT	
cm3/1000s. (B) SETTING OF IN. WITH GOVERNOR GUIDE SLEEVE POSITION	TION
cm3/1000s. (B) SETTING OF IN. WITH GOVERNOR GUIDE SLEEVE POSITION Control lever position degree	: - 3
cm3/1000s. (B) SETTING OF IN. WITH GOVERNOR GUIDE SLEEVE POSITION	: - 3
cm3/1000s. (B) SETTING OF INVITH GOVERNOR GUIDE SLEEVE POSITION control lever cosition degree lated speed rpm	: - 3 : 800 : 0.50
cm3/1000s. (B) SETTING OF INVITH GOVERNOR GUIDE SLEEVE POSITION control lever cosition degree lated speed rpm	: - 3 : 800
cm3/1000s. (B) SETTING OF INVITH GOVERNOR GUIDE SLEEVE POSITIONS control lever position degree Rated speed rpm Rack travel in mm olerance mm	: - 3 : 800 : 0.50
cm3/1000s. (B) SETTING OF INVITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree Rated speed rpm Rack travel in mm Tolerance mm	: - 3 : 800 : 0.50
cm3/1000s. (B) SETTING OF INVITH GOVERNOR GUIDE SLEEVE POSITIONS control lever position degree Rated speed rpm Rack travel in mm Tolerance mm governor spring are—tension	: - 3 : 800 : 0.50 : +- 0.20
im3/1000s. (B) SETTING OF INDITH GOVERNOR GUIDE SLEEVE POSITION control lever cosition degree cated speed rpm cack travel in mm colerance mm overnor spring re-tension	: - 3 : 800 : 0.50 : +- 0.20
Cm3/1000s. (B) SETTING OF IN. WITH GOVERNOR GUIDE SLEEVE POSITION Control lever cosition degree Rack travel in mm Colerance mm Governor spring Cre-tension Click setting x	: - 3 : 800 : 0.50 : + 0.20
Cm3/1000s. (B) SETTING OF IN. WITH GOVERNOR GUIDE SLEEVE POSITION Control lever cosition degree Rack travel in mm Tolerance mm governor spring cre-tension Click setting x	: - 3 : 800 : 0.50 : +- 0.20
Cm3/1000s. (B) SETTING OF IN. WITH GOVERNOR GUIDE SLEEVE POSITION Control lever control lever cosition degree Rated speed rpm Rack travel in mm Tolerance mm governor spring cre-tension Click setting x GULL LOAD DELIVERY	: - 3 : 800 : 0.50 : + 0.20
cm3/1000s. (B) SETTING OF IN. WITH GOVERNOR GUIDE SLEEVE POSITION Control lever cosition degree Rated speed rpm Clack travel in mm covernor spring cov	: - 3 : 800 : 0.50 : + 0.20 : 5.00
Cm3/1000s. (B) SETTING OF IN. WITH GOVERNOR GUIDE SLEEVE POSITION Control lever control lever cosition degree Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x FULL LOAD DELIVERY Rated speed rpm Aneroid pressure Pa	: - 3 : 800 : 0.50 : + 0.20 : 5.00
Cm3/1000s. (B) SETTING OF IN. WITH GOVERNOR GUIDE SLEEVE POSITION Control lever control lev	: - 3 : 800 : 0.50 : + 0.20 : 5.00 : 4T FULL LOAD STOP : 1050 : -
Cm3/1000s. (B) SETTING OF IN. WITH GOVERNOR GUIDE SLEEVE POSITION Control lever control lever cosition degree Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x FULL LOAD DELIVERY Rated speed rpm Aneroid pressure Pa	: - 3 : 800 : 0.50 : + 0.20 : 5.00 : 4T FULL LOAD STOP : 1050 : -
Sm3/1000s. (B) SETTING OF INVITH GOVERNOR GUIDE SLEEVE POSITION Control lever Cosition degree Cated speed rpm Colerance mm Covernor spring Covernor spr	: - 3 : 800 : 0.50 : + 0.20 : 5.00 : 5.00 : 1050 : - : 66.0

Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +- 3.0 : 3.5 : 8.0
CONTROL LEVER	
control lever position degree tolerance degree	: 94.0 : + 4.0
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 6.95 : 1095 : +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1145 : + 15
rack travel imm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55 : 1295
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1150 : + 15
LOW IDLE	
control lever position degree tolerance degree	: 76.0 : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 4.15
Tolerance mm : + 0.10

Testing:

Rated speed rpm : 325 rack travel mm : 4.70 Tolerance mm : + 0.10

TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1050 : 8.00 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 500 : 8.75 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 840 : 8.30 : +- 0.10
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa	: -
Rat <mark>ed speed rpm</mark> Del. quantity	: 500
cm3/1000 strokes	: 58.5
Tolerance cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000s.	: +- 4.0
rack travel mm Polerance mm	: 8.30 : + 0.10
STARTING FUEL DEL	IVERY
Rated speed rpm	
rack travel mm Tolerance mm	: 20.25 : +- 0.75
Del. quantity cm3/1000 strokes	
Tolerance	
cm3/1000 strokes Check tolerance	: +- 7.5
cm3/1000s.	: +- 10.0
OW IDLE	
OW IDLE	: 325

Tolerance cm3/1000 strokes		2.0
Check tolerance	; т-	2.0
cm3/1000s.	: +-	4.5
Spreed		
Tolerance		
cm3/1000 strokes	:	5.5
Check tolerance		
cm3/1000s.	:	9.0

End of test specification sheet

CO5

Rack travel in mm : 4.70 Tolerance mm : + 0.10

Del. quantity cm3/1000 strokes : 15.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 22.05.98 Edition : ISO 4113 Test oil

Combination No. : 0 400 876 439

Injection pump

Pump designation : PES6A90D410RS2757 EP type number : 0 410 896 086

Governor

Governer design. : RSV425...1050A5C2266

: -1L

Governer no. : 0 420 232 638

Cust. part No. : 112069

Customer-spec. information : IVECO-FIAT Customer : 8065.25.699 Motor

Power KW : 99.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

40 temp. °C Tolerance °C 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

: 173.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

2.30 Prestroke mm Tolerance mm : ← 0.05

Check

tolerance mm : ← 0.10

Rack travel in mm : 10.50 : **←** 1.50 Tolerance mm

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

: **←** 0.50 Tolerance

Check

tolerance °NW : **→** 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.80 Tolerance mm : ← 0.05

Del. quantity

cm3/1000 strokes : 93.0

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

cm3/1000S.

: **←** 2.5

Spreed

Tolerance cm3/1000 strokes : 3.0 check tolerance	Check tolerance cm3/1000s. : 7.0
cm3/1000s. : 7.0	CONTROL LEVER
Rated speed rpm : 425	control lever position degree : 101.0 tolerance degree : +- 4.0
Rack travel in mm : 6.70 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 10.0	RATED SPEED rack travel mm : 10.80 Rated speed rpm : 1095
Tolerance - cm3/1000 strokes : +- 2.0 - Check tolerance -	Tolerance 1/min : +- 5 rack travel mm : 4.00
cm3/1000s. : +- 4.0 Spreed Tolerance	Rated speed rpm : 1170 Tolerance 1/min : +- 15
cm3/1000 strokes : 4.5 - Check tolerance - cm3/1000s. : 7.0 -	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1365
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1215 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : -3 Rated speed rpm : 800	- control lever - position degree : 77.0 - tolerance degree : + 4.0
Rack travel in mm : 0.50 - Tolerance mm : + 0.20 -	- Setting point w/out bumper spring
governor spring pre-tension click setting x : 4.75	Rated speed rpm : 425 rack travel mm : 6.20 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	- Testing:
Rated speed rpm : 1050 Aneroid pressure hPa : 900	- Rated speed rpm : 425 - rack travel mm : 6.70 - Tolerance mm : + 0.10
Del. quantity cm3/1000 strokes : 93.0 Tolerance cm3/1000 strokes : + 0.5	rack travel mm : 2.00 Rated speed rpm : 677 Tolerance 1/min : +- 30
Check tolerance cm3/1000s. : + 2.5 Spreed Tolerance	TORQUE CONTROL Rated speed rpm : 1050
cm3/1000 strokes : 3.0	rack travel mm : 11.80 Tolerance mm : + 0.05

Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 700 : 12.40 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 900 : 12.50 : ← 0.10
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: -
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 475 : 11.60 : +- 0.10
Pressure hPa rack travel mm Tolerance mm	: 600 : 12.20 : + 0.05
FUEL DELIVERY CHA	RACTERISTICS
rack travel mm Tolerance mm	: 12.40 : +- 0.10
Aneroid pressure	
hPa Rated speed rpm	: - : 500
Del. quantity cm3/1000 strokes	: 73.0
Tolerance cm3/1000 strokes	: +- 0.5
Check tolerance cm3/1000s.	: +- 2.5

Rated speed rpm	:		100
rack travel mm	:		20.50
Tolerance mm	:	+-	1.00
Del. quantity			
cm3/1000 strokes	;		90.0
Tolerance			
cm3/1000 strokes	:	+-	7.5
Check tolerance			
cm3/1000s.	:	+	10.0

LOW IDLE

Rated speed rpm	:		425
Rack travel in mm Tolerance mm	:	+-	6.70 0.10
Del. quantity	٠	-	0.10
cm3/1000 strokes	:		10.0
Tolerance cm3/1000 strokes	:	+-	2.0
Check tolerance			
cm3/1000s. Spreed	:	+-	4.0
Tolerance			
cm3/1000 strokes	:		4.5
Check tolerance			7.0
CW21 10002"	٠		7.0

End of test specification sheet

STARTING FUEL DELIVERY

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 26.05.98 : ISO 4113

Combination No. : 0 400 876 440

Injection pump

Pump designation : PES6A9004i0RS2757

EP type number : 0 410 896 086

Governor

Governer design. : RSV425...1075A1C2266

: -2L

Governer no.

: 0 420 232 640

Cust. part No. : 99459159

Customer-spec. information Customer : IVECO-FIAT

Motor

: 8065.25.085

Power KW

: 104.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C

Tolerance °C

: 40 : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

: 173.5

Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

CO9

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.30 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : ← 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm : 12.90

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes :

102.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance Check tolerance cm3/1000s. : +- 3.0 cm3/1000S. : +- 3.0 Spreed Spreed Tolerance cm3/1000 strokes : Tolerance Check tolerance cm3/1000s. : cm3/1000 strokes: 3.5 Check tolerance cm3/1000s. : 8.0 CONTROL LEVER control lever position degree : 106.0 Rated speed rpm : 425 tolerance degree : + 4.0 Rack travel in mm: 7.50 Tolerance mm : +- 0.10 RATED SPEED rack travel mm : 11.90 Rated speed rpm : 1120 Del. quantity cm3/1000 strokes : 13.0 Tolerance 1/min : +- 5 Toterance cm3/1000 strokes : \leftarrow 2.0 rack travel mm : 4.00 Check tolerance Rated speed rpm : 1165 cm3/1000s. : +- 4.5 Tolerance 1/min : +- 15 Spreed Tolerance rack travel mm : 0.85 Tolerance mm : +- 0.55 cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. : 9.0 Rated speed rpm : 1340 rack travel mm : 4.00 (B) SETTING OF INJECTION PUMP Rated speed rpm : 1190 WITH GOVERNOR Tolerance 1/min : +- 15 GUIDE SLEEVE POSITION LOW IDLE control lever position degree : -3
Rated speed rpm : 8 control lever position degree : 75.0 800 tolerance degree : +- 4.0 Rack travel in mm : 0.50 Toterance mm : +- 0.20 Setting point w/out bumper spring Rated speed rpm : 425 rack travel mm : 7.00 Tolerance mm : + 0.10 governor spring pre-tension click setting x : 4.50Rated speed rpm : 100 FULL LOAD DELIVERY AT FULL LOAD STOP CRT mm min. : > 19.50Rated speed rpm : 1075 Aneroid pressure Testing: hPa 900 Rated speed rpm : 425 rack travel mm : 7.50 Tolerance mm : +-0.10Del. quantity cm3/1000 strokes : 102.0 Tolerance cm3/1000 strokes : +- 1.0rack travel mm : 2.00

3.5

8.0

Rated speed rpm Tolerance 1/min	: 555 : +- 30
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1075 : 12.90 : + 0.05
Rated speed rpm	: 500
Rated speed rpm rack travel mm Tolerance mm	: 700 : 12.95 : ← 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 900 : 12.95 : + 0.10
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : − : 11.30 : ← 0.10
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 430 : 12.20 : ← 0.10
Pressure hPa rack travel mm Tolerance mm	: 500 : 12.55 : + 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 900 : 700 : 12.95 : + 0.10 : 98.0 : + 2.0
Check tolerance cm3/1000s.	: +- 4.0

Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +-	500 68.0 1.0 3.0		
STARTING FUEL DELIVERY Rated speed rpm : 100				
rack travel mm Tolerance mm	: : +-	20.25		
Note: direction	•			

Tolerance

Tolerance

Check tolerance cm3/1000s.

Del. quantity cm3/1000 strokes :

cm3/1000 strokes : \leftarrow 7.5

Check tolerance cm3/1000s.	: +-	10.0	
LOW IDLE			
Rated speed rpm	:	425	
Rack travel in mm Tolerance mm Del. quantity	: +-	7.50 0.10	
cm3/1000 strokes	:	13.0	
cm3/1000 strokes	: +-	2.0	
Check tolerance cm3/1000s. Spreed	: +-	4.5	

84.0

9.0

End of test specification sheet

cm3/1000 strokes : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 20.05.98 : ISO 4113

Combination No. : 0 402 736 906AA

Injection pump

Pump designation : PES6P120A120RS7416

EP type number : 0 412 726 959

Governor

Governer design. :

Governer no.

Cust. part No. : 3933297

Customer-spec. information

: CDC Customer

: 6BTA-A Motor

Power KW : 130.0

TEST BENCH REQUIREMENTS

Inlet line

: 3.2

Test oil inlet

temp. °C

40

2.0

Tolerance °C 2.0

Overflow valve : 2 417 413 093

Inlet press. bar :

Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

208.5 bar

: +- 1.5 Slerance bar

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm 3.60

: +- 0.05 Tolerance mm

Check

: + 0.10 tolerance mm

Rack travel in mm : 10.50

: +- 1.50 Tolerance mm

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : **←** 0.75

Start of delivery blocking

"NW after s.o.d. : 6.00

: +- 0.50 Tolerance

Check

tolerance °NW : **←** 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 13.65

C12

Tolerance mm : +- 0.05	+ Check tolerance + cm3/1000s. : +- 4.0
Del. quantity cm3/1000 strokes : 160.5	Spreed Tolerance
Tolerance	+ cm3/1000 strokes : 8.0 + Check tolerance
cm3/1000 strokes : +- 1.0	+ cm3/1000s. : 12.0
Check tolerance cm3/1000s. : +- 4.0	CONTROL LEVER
Spreed	+
To be many a	+ control lever
Tolerance cm3/1000 strokes : 8.0	position degree : 117.0 tolerance degree : + 6.0
Check tolerance	RATED SPEED
cm3/1000s. : 12.0	+ rack travel mm : 12.60
10000	Rated speed rpm : 1325
	+ Tolerance 1/min : + 15
	+ Check
Rated speed rpm : 420	speed 1/min : +- 30
Rack travel in mm : 6.00	rack travel mm : 4.00
	+ Rated speed rpm : 1480
	+ Tolerance 1/min : +- 5
Del. quantity cm3/1000 strokes : 15.0	+ Check
Tolerance	+ speed 1/min : + 10
cm3/1000 strokes : +- 3.0	T mark through the
Check tolerance	+ rack travel mm : 0.50
cm3/1000s. : +- 5.0	+ Tolerance mm : +- 0.50
Spreed	Rated speed rpm : 1550
Tolerance	†
cm3/1000 strokes : 4.0	†
Check tolerance	†
cm3/1000s. : 8.0	
	+ LOW IDLE
	†
(B) SETTING OF INJECTION PUMP	†
WITH GOVERNOR	+ control lever
	+ position degree : 71.0
	tolerance degree : + 6.0
CUIDE DI PELE DOCTTON	Control lavor difference
GUIDE SLEEVE POSITION	Control lever difference
	+ Grad : 46.0
	tolerance degree : +- 6.0
control lever	
position degree : VH	+ Setting point w/out bumper spring
	700
FULL LOAD DELIVERY AT FULL LOAD CTOD	Rated speed rpm : 300
FULL LOAD DELIVERY AT FULL LOAD STOP	CDT mm min
0.1.1	+ CRT mm min. : > 5.80
Rated speed rpm : 1250	Tartina
Aneroid pressure	Testing:
hPa : 800	T Dated aread not 130
Del. quantity	+ Rated speed rpm : 420
cm3/1000 strokes : 160.5	rack travel mm : 6.00
Tolerance	+ Tolerance mm : +- 0.10
cm3/1000 strokes : +- 1.0	†
	+ Rated speed rpm : 425

		+	Del. quantity	
TORQUE CONTROL	. 1250		cm3/1000 strokes Tolerance cm3/1000 strokes	
Rated speed rpm rack travel mm Tolerance mm	: 13.65 : +- 0.05	<u> </u>	Check tolerance	: +- 6.0
Rated speed rpm rack travel mm Tolerance mm	: 11.85	‡	Tolerance cm3/1000 strokes Check tolerance	
Rated speed rpm rack travel mm	: 11.60	‡	cm3/1000s.	: 12.0
Tolerance mm	: ← 0.20		rack travel mm Tolerance mm	
ANEROID/ALTITUDE COMPENSATOR TEST		+	Aneroid pressure	•
SETTING		+	Rated speed rpm Del. quantity cm3/1000 strokes	
Rated speed rpm Pressure hPa	: 1250 : 800	Ŧ	Tolerance cm3/1000 strokes	
Rated speed rpm Pressure hPa	: -	+	Check tolerance cm3/1000s.	: +- 4.0
rack travel mm Tolerance mm		+	STARTING FUEL DEL	IVFRY
MEASUREMENT		<u>†</u>	Set starting CRT	
Rated speed rpm	: 1250	+	See Starting City	ac ix ceam.
Pressure hPa rack travel mm Tolerance mm	: 340 : 12.70 : ← 0.30	† †	Rated speed rpm rack travel mm Tolerance mm Del. quantity	: 14.10
Pressure hPa rack travel mm Tolerance mm		1	cm3/1000 strokes Tolerance cm3/1000 strokes	
	. 1- 0.20	 	Check tolerance cm3/1000s.	: +- 25.0
Start interlock		‡		
Rated speed rpm Rated speed rpm	: > 100 : < 280	+	LOW IDLE	
Check speed 1/min Check	: > 80	+	Rated speed rpm	: 420
speed 1/min	: < 290	+	Rack travel in mm Tolerance mm	
FUEL DELIVERY CHA	RACTERISTICS		Del. quantity cm3/1000 strokes Tolerance	
Aneroid pressure hPa Rated speed rpm	: 800 : 800	† † †	cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: +- 3.0 : +- 5.0

Tolerance

cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 18.05.98 Test oil : 18.05.98

Combination No. : F 002 AUZ 0260B

Injection pump

Pump designation : PES4A95D320/3RS2880

EP type number : 9 410 037 214

Governor

Governer design. : RSV475...1250A0C904R

Governer no. : F 002 A20 220

Cust. part No. : 3935030

Customer-spec. information Customer : CDC : 4BT3.9 Motor Power KW : 54.5

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

40 temp. °C · + 2.0 Tolerance °C

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : $\leftarrow 0.1$

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.45
Tolerance mm : + 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270 Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Start of delivery blocking

°NW after s.o.d. : 8.50 Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.45

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 83.0	Aneroid pressure hPa : - Del. quantity
Tolerance cm3/1000 strokes : +- 1.0	- cm3/1000 strokes : 83.0 - Tolerance
Check tolerance cm3/1000s. : +- 3.0	+ cm3/1000 strokes : +- 1.0 + Check tolerance + cm3/1000s. : +- 3.0
Spreed	+ Spreed + Tolerance
Tolerance : 3.5	- cm3/1000 strokes : 3.5 - Check tolerance - cm3/1000s. : 6.0
Check tolerance cm3/1000s. : 6.0	
	CONTROL LEVER
Rated speed rpm : 450	control lever position degree : 109.0 tolerance degree : +- 4.0
Rack travel in mm : 5.50 Tolerance mm : +- 0.10 Del. quantity	RATED SPEED - rack travel mm : 9.40
<pre>cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : +- 2.0</pre>	Rated speed rpm : 1340 Tolerance 1/min : + 5 Check
Check tolerance cm3/1000s. : +- 4.5	speed 1/min : + 10
Spreed Tolerance cm3/1000 strokes : 3.5	+ rack travel mm : 4.00 + Rated speed rpm : 1405 + Tolerance 1/min : + 5
Check tolerance cm3/1000s. : 5.5	+ Check + speed 1/min : + 10
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1475
GUIDE SLEEVE POSITION	rack travel mm : 4.00 Rated speed rpm : 1410 Tolerance 1/min : + 15
control lever position degree : - 3 Rated speed rpm : 800	Check speed 1/min : + 20
Rack travel in mm : 0.50 Tolerance mm : + 0.20	LOW IDLE
governor spring pre-tension click setting x : 2.50	control lever position degree : 85.0 tolerance degree : +- 4.0
FULL LOAD DELIVERY AT FULL LOAD STOP	Control lever difference Grad: 24.0 tolerance degree: +- 6.0
Rated speed rpm : 1250	Setting point w/out bumper spring

Rated speed rpm : 450 rack travel mm : 5.00 : **←** 0.10 Tolerance mm

Rated speed rpm : 100

CRT mm min. : > 19.00

Testing:

Rated speed rpm : 450 rack travel mm : 5.50 Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 1250 rack travel mm : 10.45 : +- 0.05 Tolerance mm

Rated speed rpm : 500

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50
Tolerance mm : + 0.50 Del. quantity

cm3/1000 strokes : 121.0

Tolerance

cm3/1000 strokes : \leftarrow 10.0

Check tolerance

cm3/1000s. : **←** 15.0

LOW IDLE

Rated speed rpm : 450

Rack travel in mm: 5.50 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 16.0

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance

: +- 4.5 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

5.5 cm3/1000s.

End of test specification sheet

C18

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.05.98 Test oil : ISO 4113

Combination No. : F 002 A0Z 079

Injection pump

Pump designation : PES4A95D320/3RS2952

EP type number : F 002 A10 030

Governor

Governer design. : RQV475...1250AB1329R

Governer no. : F 002 A30 004

Cust. part No. : 3933691

Customer-spec. information Customer : CDC

Motor

: 48NA

Power KW

: 59.6

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

: 40

Tolerance °C

Overflow valve : 2 417 413 093

Inlet press. bar :

2.0

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

REMARKS

x inside diameter: 2.0 x length mm : 600

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing

: 0-90-180-270 : +- 0.50

Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery blocking

"NW after s.o.d. : 8.50

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.00 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 87.0

C19

Tolerance cm3/1000 strokes : +- 1.0	+ guide sleeve + travel mm : 11.50 + Tolerance mm : + 0.50
Check tolerance cm3/1000s. : + 3.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed	+
Tolerance cm3/1000 strokes : 3.5	Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity
Check tolerance cm3/1000s. : 6.0	- cm3/1000 strokes : 87.0 Tolerance - cm3/1000 strokes : + 1.0
Rated speed rpm : 475	- Check tolerance - cm3/1000s. : +- 3.0 - Spreed
Rack travel in mm : 5.35 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 15.0	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0
Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance	CONTROL LEVER control lever position degree : 47.0
cm3/1000 strokes : 3.5 Check tolerance	tolerance degree : +- 6.0
cm3/1000s. : 5.5 (B) SETTING OF INJECTION PUMP WITH GOVERNOR	RATED SPEED rack travel mm : 9.00 Rated speed rpm : 1300 Tolerance 1/min : + 15 rack travel mm : 4.00
GUIDE SLEEVE TRAVEL	Rated speed rpm : 1390 Tolerance 1/min : +- 5
Rated speed rpm : 1310 guide sleeve travel mm : 8.60 Tolerance mm : + 0.15	rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1475
Rated speed rpm : 475 guide sleeve : 1.90 Tolerance mm : + 0.20	LOW IDLE
Rated speed rpm : 930 guide sleeve travel mm : 5.25 Tolerance mm : + 0.25	control lever position degree : 12.0 tolerance degree : +- 6.0
Rated speed rpm : 630 guide sleeve travel mm : 3.30 Tolerance mm : + 0.25	Control lever difference Grad: 35.0 tolerance degree: + 6.0 Setting point w/out bumper spring
Rated speed rpm : 1630 -	Rated speed rpm : 400

CRT mm min. : > 7.00

Testing:

Rated speed rpm : 475 rack travel mm : 5.35 Tolerance mm : +- 0.10

Rated speed rpm : 550

TORQUE CONTROL

Rated speed rpm : 1250 rack travel mm : 10.00 Tolerance mm : +- 0.05

Start interlock

Rated speed rpm : > 190 Rated speed rpm : < 385

Check

speed 1/min : > 170

Check

speed 1/min : < 395

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 Del. quantity

cm3/1000 strokes : 120.0

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : +- 15.0

LOW IDLE

Rated speed rpm : 475

Rack travel in mm : 5.35
Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 15.0

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.5

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 27.05.98 Test oil : ISO 4113

Combination No. : F 002 A0Z 079

Injection pump

Pump designation : PES4A95D320/3RS2952

EP type number : F 002 A10 030

Governor

Governer design. : RQV475...1250AB1329R

Governer no. : F 002 A30 004

Cust. part No. : 3933691

Customer-spec. information Customer : CDC Motor : 4BNA Power KW : 59.6

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0

Tolerance bar : +- 1.0

Prestroke mm : 2.85 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50

Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing Tolerance : 0-90-180-270

: ← 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

°NW after s.o.d. : 8.50

Tolerance : + 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.20 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 92.0

C22

Tolerance cm3/1000 strokes : + 1	.0	guide sleeve travel mm : 11.50 Tolerance mm : +- 0.50
Check tolerance cm3/1000s. : +- 3	1.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed		Rated speed rpm : 1250
Tolerance cm3/1000 strokes : 3	5.5	Aneroid pressure hPa : - Del. quantity
Check tolerance cm3/1000s. : 6	.0	cm3/1000 strokes : 92.0 Tolerance cm3/1000 strokes : +- 1.0
Rated speed rpm : 475	‡	Check tolerance cm3/1000S. : +- 3.0 Spreed Tolerance
Rack travel in mm : 5. Tolerance mm : + 0. Del. quantity		cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0
cm3/1000 strokes : 13 Tolerance	+	. 0.0
cm3/1000 strokes : +- 2 Check tolerance cm3/1000s. : +- 4	.5 +	CONTROL LEVER
Spreed Tolerance cm3/1000 strokes : 3	.5	control lever position degree : 102.0 tolerance degree : +- 6.0
Check tolerance cm3/1000s. : 5	.5	RATED SPEED rack travel mm : 9.20
(B) SETTING OF INJECTION POWITH GOVERNOR	UMP +	Rated speed rpm : 1315 Tolerance 1/min : + 15
GUIDE SLEEVE TRAVEL		rack travel mm : 4.00 Rated speed rpm : 1400 Tolerance 1/min : +- 5
Rated speed rpm : 1310 guide sleeve travel mm : 8.0 Tolerance mm : + 0.1	50 +	rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1475
Rated speed rpm : 475 guide sleeve travel mm : 1.9	+	LOU TO E
travel mm : 1.9 Tolerance mm : + 0.2		LOW IDLE
Rated speed rpm : 930 guide sleeve travel mm : 5.2 Tolerance mm : + 0.2	25 +	control lever position degree : 67.0 tolerance degree : +- 6.0
Rated speed rpm : 630 guide sleeve	+++++++++++++++++++++++++++++++++++++++	Control lever difference Grad : 35.0 tolerance degree : +- 6.0
travel mm : 3.3 Tolerance mm : + 0.2		Setting point w/out bumper spring
Rated speed rpm : 1630	Ŧ	Rated speed rpm : 400

CRT mm min. :> 6.50

Testing:

Rated speed rpm : 475 rack travel mm : 5.00 Tolerance mm : + 0.10

Rated speed rpm : 550

TORQUE CONTROL

Rated speed rpm : 1250 rack travel mm : 10.20 Tolerance mm : + 0.05

Start interlock

Rated speed rpm : > 100 Rated speed rpm : < 385

Check

speed 1/min : > 80

Check

speed 1/min : < 395

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 120.0

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000S. : +- 15.0

LOW IDLE

Rated speed rpm : 475

Rack travel in mm: 5.00
Tolerance mm: + 0.10
Del. quantity

cm3/1000 strokes : 13.5 Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance cm3/1000s. : +- 4.5

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance cm3/1000s.

5.5

End of test specification sheet

C24

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 14.05.98 : ISO 4113

Combination No. : 0 401 846 760

Injection pump

Pump designation : PE6P110A320RS3108X EP type number : 0 411 816 730

Governor

Governer design. : RQV250...1100PA920

: -2

Governer no.

: 0 421 813 779

Cust. part No. : 469609-P10 v. 10/96

Customer-spec. information

Customer : VOLVO-TRUCK

Motor

: TD 102 KF

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration

damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Tolerance l/h: \leftarrow 20.0

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure : 173.5

C25

Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter :

3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

Prestroke mm

3.05

: **←** 0.05 Tolerance mm

Check

: **←** 0.10 tolerance mm

Rack travel in mm : 9.50

Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing

: 0-60-120-180-240

: -300

Tolerance

: +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance

: + - 0.50

Check

tolerance °NW : + 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm : 700

	t	Tolerance mm : +- 0.20
Rack travel in mm : Tolerance mm : +-		Rated speed rpm : 500 guide sleeve travel mm : 4.50
Del. quantity cm3/1000 strokes :	175.0	Tolerance mm : +- 0.30
Tolerance cm3/1000 strokes : +-	1.0	Rated speed rpm : 1100 guide sleeve travel mm : 7.25 Tolerance mm : +- 0.25
Check tolerance cm3/1000s. : +-	4.0	GUIDE SLEEVE POSITION
Spreed	<u> </u>	
Tolerance cm3/1000 strokes :	4.0	control lever position degree : - 1 Rated speed rpm : 1175
Check tolerance cm3/1000s. :	7.5	Rack travel in mm : 16.50 Tolerance mm : +- 1.30
Rated speed rpm : 2	250	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : Tolerance mm : +-		Rated speed rpm : 700 Aneroid pressure
Del. quantity cm3/1000 strokes :	32.0	hPa : 1000 Del. quantity
Tolerance cm3/1000 strokes : +-	2.0	cm3/1000 strokes : 175.0 Tolerance
Check tolerance	+	cm3/1000 strokes : +- 1.0
cm3/1000s. : + Spreed	4.5	Check tolerance cm3/1000s. : +- 4.0
Tolerance cm3/1000 strokes :	3.0	Spreed Tolerance
Check tolerance cm3/1000s. :	6.0	cm3/1000 strokes : 4.0 Check tolerance
CM3/10005. :	7	cm3/1000s. : 7.5
(B) SETTING OF INJECTION WITH GOVERNOR	I PUMP	
WITH GOVERNOR	Ŧ	CONTROL LEVER
GUIDE SLEEVE TRAVEL	+	control lever position degree : 65.0
Rated speed rpm : 9 guide sleeve	P50	tolerance degree : +- 4.0
travel mm :	6.50	control lever
Tolerance mm : +-	-	position degree : 119.0 tolerance degree : +- 4.0
Rated speed rpm : 2 guide sleeve	250	RATED SPEED
travel mm :	1.20	rack travel mm : 11.90
Tolerance mm : +-	U.1U +	Rated speed rpm : 1165 Tolerance 1/min : +- 5
Rated speed rpm : 7 guide sleeve	'00	rack travel mm : 4.00
	6.50	Rated speed rpm : 1250

Tolerance 1/min : +- 15

LOW IDLE

control lever

position degree : 64.0 tolerance degree : + 4.0

control lever

position degree : 12.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 150

CRT mm min. :> 6.10

Testing:

Rated speed rpm : 250 rack travel mm : 4.90 Tolerance mm : + 0.10

Rated speed rpm : 330

TORQUE CONTROL

Rated speed rpm : 700 rack travel mm : 12.90 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 12.90
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : rack travel mm : 9.50
Tolerance mm : + 0.15

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 840 rack travel mm : 3.00 Tolerance mm : +- 0.20

Pressure hPa : 240 rack travel mm : 0.25 Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

Rated speed rpm : 700

Del. quantity

cm3/1000 strokes : 113.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

ESS test: With 24 V solenoid activated, rack must reach start position in max. control lever setting.

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 Del. quantity

cm3/1000 strokes : 185.0

Tolerance

cm3/1000 strokes : + 15.0

Check tolerance cm3/1000s. : \leftarrow 19.0

LOW IDLE

Rated speed rpm : 250

Rack travel in mm: 4.90
Tolerance mm: + 0.10
Del. quantity
cm3/1000 strokes: 32.0
Tolerance

cm3/1000 strokes : + 2.0 Check tolerance

cm3/1000s. : +- 4.5

Spreed

Tolerance : 3.0 Check tolerance cm3/1000s. : 6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 19.05.98 : ISO 4113

Combination No. : 0 402 076 822

Injection pump

Pump designation : PES6P110A320RS3400

EP type number : 0 412 016 759

Governor

Governer design. : RSV300...1000P1A695

Governer no. : 0 421 833 618

Cust. part No. : 11032943 v. 25.02.98

Customer-spec. information

Customer : VCE

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.5

Overflow quantity

min. l/h : 150
Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar

: 298.5

Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter :

2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +- 1.0

Prestroke mm : 2.45
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50

: +- 0.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.30

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 131.0

4	- Tolerance
Tolerance cm3/1000 strokes : +- 1.0	- cm3/1000 strokes : +- 1.0 - Check tolerance
Check tolerance	- cm3/1000S. : + 4.0 - Spreed
cm3/1000s. : +- 4.0	- Tolerance - cm3/1000 strokes : 5.0
Spreed	- Check tolerance - cm3/1000S. : 9.0
Tolerance cm3/1000 strokes : 5.0	-
Check tolerance cm3/1000s. : 9.0	- CONTROL LEVER - control lever
700	position degree : 106.0 tolerance degree : + 4.0
Rated speed rpm : 300	- RATED SPEED
Rack travel in mm: 9.00 Tolerance mm: + 0.10	rack travel mm : 12.30 Rated speed rpm : 1022
Del. quantity cm3/1000 strokes : 49.0	Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : + 2.0 check tolerance	rack travel mm : 4.00 Rated speed rpm : 1075 Tolerance 1/min : +- 10
cm3/1000s. : + 5.0 -	rack travel mm : 0.85
Tolerance cm3/1000 strokes : 7.0	Tolerance mm : + 0.55 Rated speed rpm : 1150
Check tolerance cm3/1000s. : 11.0	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION	control lever position degree : 77.0 tolerance degree : +- 4.0
‡	Testing:
control lever position degree : -3 Rated speed rpm : 800	Rated speed rpm : 300 rack travel mm : 9.00 Tolerance mm : + 0.10
Rack travel in mm: 0.50	
governor spring pre-tension	rack travel mm : 2.00 Rated speed rpm : 370 Tolerance 1/min : +- 30
click setting x : 4.25	SET IDLE AUXILIARY SPRING
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 2.00 Tolerance mm : + 2.00
Rated speed rpm : 700 Aneroid pressure	
hPa : - Del. quantity cm3/1000 strokes : 131.0	TORQUE CONTROL Rated speed rpm : 700 rack travel mm : 13.30
TIID/ 1000 Strokes : 131.0 +	EAUR LEAVEL HITH : 15.30

Tolerance mm : +- 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 700
Pressure hPa : 1500
rack travel mm : 13.30
Tolerance mm : + 0.10

Rated speed rpm : 700
Pressure hPa : rack travel mm : 10.90
Tolerance mm : + 0.10

MEASUREMENT

Rated speed rpm : 700

Pressure hPa : 220 rack travel mm : 11.50 Tolerance mm : + 0.10

Pressure hPa : 510 rack travel mm : 12.50 Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 700

Del. quantity cm3/1000 strokes : 85.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 9.00 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 49.0

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 5.0

Spreed

Tolerance

cm3/1000 strokes : 7.0

Check tolerance

cm3/1000s. : 11.0

End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.05.98 Test oil : ISO 4113

Combination No. : 0 402 646 658

Injection pump

Pump designation : PE6P130A720RS7371 EP type number : 0 412 636 837

Governor

Governer design. : RQV250...900PA1215 Governer no. : 0 421 814 139

Cust. part No. : 3825482-P05 V.05.98

Customer—spec. information
Customer : PENTA
Motor : TAMD 163 A
Power KW : 405.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 60 Tolerance l/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.70
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10

Rack travel in mm : 7.60

Rack travel in mm : 7.60 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900	guide sleeve travel mm : 1.98 Tolerance mm : +- 0.25
Rack travel in mm: 13.20 Tolerance mm: + 0.05	Rated speed rpm : 365 guide sleeve travel mm : 2.47
Del. quantity cm3/1000 strokes : 377.0	Tolerance mm : + 0.25
Tolerance cm3/1000 strokes : + 1.5	Rated speed rpm : 650 guide sleeve travel mm : 4.40 Tolerance mm : + 0.25
Check tolerance cm3/1000s. : + 5.0	Rated speed rpm : 1160 guide sleeve
Spreed	travel mm : 11.50 Tolerance mm : + 0.50
Tolerance cm3/1000 strokes : 9.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : 12.0	control lever
Rated speed rpm : 250	position degree : - 1 Rated speed rpm : 1030
Rack travel in mm : 5.00 Tolerance mm : + 0.10	Rack travel in mm : 11.00 Tolerance mm : +- 2.00
Del. quantity cm3/1000 strokes : 25.0 Tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance	Rated speed rpm : 900 Aneroid pressure
cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed	Rated speed rpm : 900 Aneroid pressure hPa : 1500 Del. quantity
cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance	Rated speed rpm : 900 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 377.0 Tolerance cm3/1000 strokes : + 1.5
cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 5.0	Rated speed rpm : 900 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 377.0 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0
cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance	Rated speed rpm : 900 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 377.0 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 9.0 Check tolerance
<pre>cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0</pre>	Rated speed rpm : 900 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 377.0 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 9.0
Tolerance cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 959 guide sleeve travel mm : 8.22	Rated speed rpm : 900 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 377.0 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 9.0 Check tolerance cm3/1000 strokes : 12.0 CONTROL LEVER
Tolerance cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 959 guide sleeve travel mm : 8.22 Tolerance mm : + 0.25	Rated speed rpm : 900 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 377.0 Tolerance cm3/1000s strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 9.0 Check tolerance cm3/1000 strokes : 12.0 CONTROL LEVER control lever position degree : 63.0
Tolerance cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 959 guide sleeve travel mm : 8.22	Rated speed rpm : 900 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 377.0 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 9.0 Check tolerance cm3/1000 strokes : 12.0 CONTROL LEVER control lever

RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 12.20 : 930 : +- 5
rack travel mm Rated speed rpm Tolerance 1/min	
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : ← 0.50 : 1100
LOW IDLE	
control lever position degree tolerance degree	: 71.0 : + 4.0
control lever position degree tolerance degree	: 15.0 : +- 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 150
CRT mm min.	: > 6.50
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 250 : 5.00 : + 0.10
Rated speed rpm	: 350
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 900 : 13.20 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 700 : 13.20 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	

Pressure hPa	: 1500
rack travel mm	: 13.20
Tolerance mm	: ← 0.05
Rated speed rpm	: 500
Pressure hPa	: -
rack travel mm	: 7.60
Tolerance mm	: +- 0.20
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa	: 910
rack travel mm	: 5.20
Tolerance mm	: + 0.20
Pressure hPa	: 190
rack travel mm	: 0.25
Tolerance mm	: ← 0.05

FILE	NEI THERY	CHADACTERISTICS
LUEL	DELIVER	CHARACTERISTICS

Aneroid pressure hPa Rated speed rpm	: 1500 : 700
Del. quantity cm3/1000 strokes Tolerance	: 409.0
cm3/1000 strokes Check tolerance	: ← 3.0
cm3/1000s.	: +- 6.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 700 : 194.0 : + 1.5 : + 5.0

LOW IDLE

kated speed rpm	:		230
Rack travel in mm Tolerance mm		+	5.00 0.10
Del. quantity			25 N

: +-	3.0
: +-	6.0
:	5.0
:	8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.05.98 Test oil : ISO 4113

Combination No. : 0 402 646 748

Injection pump

Pump designation : PE6P12OA32ULS7834

: -10

EP type number : 0 412 626 853

Governor

Governer design. : RQ300/1050PA1030-27

Governer no. : 0 421 801 777

Cust. part No. : 0260744202

Customer—spec. information
Customer : MB-NFZ
Motor : 0M441 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 140 Tolerance l/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 6-3-5-2-4-

: 1

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.10

Check tolerance °NW

: +- 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80

80d

Tolerance mm : +- 0.05	† guide sleeve
Dal grantity	+ travel mm : 4.00 + Tolerance mm : + 0.10
Del. quantity cm3/1000 strokes : 230.0	Total ance min . F- 0.10
	Rated speed rpm : 550
Tolerance	+ guide sleeve
cm3/1000 strokes : +- 1.0	travel mm : 6.00 Tolerance mm : + 0.10
Check tolerance	Total differential
cm3/1000s. : + 4.0	Rated speed rpm : 1270
	+ guide sleeve
Spreed	+ travel mm : 11.50 + Tolerance mm : + 0.50
Tolerance	Toterance min
cm3/1000 strokes : 5.0	
	+ GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : 9.0	Ī
. , , , , , , , , , , , , , , , , , , ,	control lever
	position degree : 109
Rated aread area . 300	Rated speed rpm : 600
Rated speed rpm : 300	+ Rack travel in mm : 20.00
Rack travel in mm : 5.20	+ Tolerance mm : + 0.80
Tolerance mm : + 0.10	+
Del. quantity cm3/1000 strokes : 13.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance	TOLL EDAD DELIVERY AT TOLL EDAD STOP
cm3/1000 strokes : +- 3.0	Rated speed rpm : 550
Check tolerance	+ Aneroid pressure
cm3/1000S. : +- 6.0 Spreed	+ hPa : 1000 + Del. quantity
Tolerance	cm3/1000 strokes : 230.0
cm3/1000 strokes : 6.0	† Tolerance
Check tolerance	+ cm3/1000 strokes : +- 1.0
cm3/1000s. : 10.0	+ Check tolerance + cm3/1000s. : +- 4.0
	T CM3/10003
(B) SETTING OF INJECTION PUMP	+ Tolerance
WITH GOVERNOR	+ cm3/1000 strokes : 5.0
	+ Check tolerance + cm3/1000s. : 9.0
GUIDE SLEEVE TRAVEL	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Dated aread are - 440/	†
Rated speed rpm : 1104 guide sleeve	CONTROL LEVER
travel mm : 6.51	- SOITTINGE ELVEIN
Tolerance mm : +- 0.10	control lever
Data diamand mm 700	+ position degree : 99.0 + tolerance degree : +- 4.0
Rated speed rpm : 300 guide sleeve	tolerance degree : +- 4.0
travel mm : 1.78	+ RATED SPEED
Tolerance mm : + 0.10	rack travel mm : 13.80
Rated speed rpm : 1050	+ Rated speed rpm : 1098 + Tolerance 1/min : +- 8
Rated speed rpm : 1050 guide sleeve	+ Tolerance 1/min : +- 8
travel mm : 6.00	rack travel mm : 4.00
Tolerance mm : + 0.10	Rated speed rpm : 1200
Rated speed rpm : 421	+ Tolerance 1/min : +- 15
Rated speed rpm : 421	T

rack travel mm Tolerance mm Rated speed rpm	: 0.75 : +- 0.75 : 1300
LOW IDLE	
control lever position degree tolerance degree	: 72.0 : +- 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 200
CRT mm min.	: > 6.80
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : 5.20 : ← 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 405 : + 20
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 550 : 14.80 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 14.80 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 15.15 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 400 : 1000 : 14.80 : +- 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 400 : - : 11.75 : +- 0.20

MEASUREMENT			
Rated speed rpm	: 400		
Pressure hPa rack travel mm Tolerance mm	: 400 : 13.25 : ← 0.20		
Pressure hPa rack travel mm Tolerance mm	: 500 : 14.10 : + 0.20		
Start interlock			
Rated speed rpm Rated speed rpm	: > 100 : < 220		
Check speed 1/min	: > 80		
Check speed 1/min	: < 240		
FUEL DELIVERY CHARACTERISTICS			
Aneroid pressure hPa	: 1000		
hPa Rated speed rpm Del. quantity	: 1050		
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 1050 : 228.0		
hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 1050 : 228.0		
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 1050 : 228.0		
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: 1050 : 228.0 : ← 3.0		
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 1050 : 228.0 : + 3.0 : + 6.0		
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1050 : 228.0 : ← 3.0 : ← 6.0 : 8.0 : 12.0		
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm	: 1050 : 228.0 : + 3.0 : + 6.0 : 8.0		
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 1050 : 228.0 : ← 3.0 : ← 6.0 : 8.0 : 12.0		
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1050 : 228.0 : ← 3.0 : ← 6.0 : 8.0 : 12.0		
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1050 : 228.0 : → 3.0 : → 6.0 : 8.0 : 12.0 : 500 : 147.0		
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance	: 1050 : 228.0 : → 3.0 : → 6.0 : 8.0 : 12.0 : 500 : 147.0 : + 1.0		

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity cm3/1000 strokes :

210.0

Tolerance

cm3/1000 strokes : \leftarrow 15.0

Check tolerance

cm3/1000s. : + 19.0

LOW IDLE

Rated speed rpm : 300

5.20 Rack travel in mm : Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 13.0

Tolerance

cm3/1000 strokes : +-3.0

Check tolerance cm3/1000s.

6.0 Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 15.05.98 Edition Test oil : 15.05.96

Combination No. : 0 402 648 705

Injection pump

Pump designation : PE8P120A320LS7913 EP type number : 0 412 628 928

Governor

Governer design. : RQV350...1050PA1358

Governer no. : 0 421 814 201

Cust. part No. : 0270742402

Customer-spec. information

Customer : MB-NFZ : OM442LA Euromot Motor

: 320.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.0

Overflow quantity min. 1/h : 190 min. l/h : 190 Tolerance l/h : \leftarrow 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 20.50 Tolerance mm : ← 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315

: + - 0.50Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : **←** 0.10

Check

tolerance °NW : +- 0.75

Barrel no. 8

BASIC SETTING

Rated speed rpm : 1050

	1
Rack travel in mm: 14.40 Tolerance mm: +- 0.05	Rated speed rpm : 580 guide sleeve travel mm : 3.62
Del. quantity cm3/1000 strokes : 227.0	Tolerance mm : + 0.25
Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 1204 guide sleeve travel mm : 10.00
Check tolerance cm3/1000s. : + 4.0	Tolerance mm : +- 0.25 Rated speed rpm : 1300
Spreed	guide sleeve travel mm : 11.50 Tolerance mm : + 0.50
Tolerance cm3/1000 strokes : 6.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : 9.0	‡
	<pre>control lever position degree : - 1 Rated speed rpm : 1160</pre>
Rated speed rpm : 350	Rack travel in mm : 13.40
Rack travel in mm: 5.30 Tolerance mm: + 0.10	Tolerance mm : + 1.30
Del. quantity cm3/1000 strokes : 19.0 Tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : +- 3.0 Check tolerance	Rated speed rpm : 1050 Aneroid pressure
cm3/1000S. : + 6.0 Spreed	+ hPa : 1000 - Del. quantity
Tolerance cm3/1000 strokes : 8.0	cm3/1000 strokes : 227.0
Check tolerance	+ cm3/1000 strokes : + 1.0
cm3/1000s. : 12.0	Check tolerance cm3/1000s. : +- 4.0 Spreed
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance cm3/1000 strokes : 6.0 Check tolerance
GUIDE SLEEVE TRAVEL	cm3/1000s. : 9.0
	Ţ
Rated speed rpm : 1097 guide sleeve travel mm : 7.85	CONTROL LEVER
Tolerance mm : +- 0.15	control lever
Rated speed rpm : 350 guide sleeve	position degree : 117.0 tolerance degree : + 4.0
travel mm : 1.48 Tolerance mm : +- 0.20	RATED SPEED : 13.40
Rated speed rpm : 900 guide sleeve	+ Rated speed rpm : 1085 + Tolerance 1/min : +- 5
travel mm : 5.69 Tolerance mm : + 0.25	rack travel mm : 4.00 Rated speed rpm : 1175

Tolerance 1/min	: +- 15	+	500
rack travel mm	: 0.50	+ Rated speed rpm	: 500
olerance mm		+ Pressure hPa	: 250
ted speed rpm			
a speed (piii	. 1500	+ rack travel mm + Tolerance mm	: +- 0.05
		+ roterance min	: +- 0.05
		+ Pressure hPa	
		+ rack travel mm	: 2.40
		+ Tolerance mm	: +- 0.15
		+	
lever		+ Start interlock	
	. 47.0	T Start litter tock	
	: 67.0	T	. 400
degree	: +- 4.0	+ Rated speed rpm	
		+ Rated speed rpm	: < 270
pint w/ou	ıt bumper spring	+ Check	
	. 350		. \ 00
peed rpm	: 250	+ speed 1/min	: > 80
		+ Check	
n.	: > 7.60	speed 1/min	: < 290
:		Ţ	
-	750	+ FUEL DELIVERY CHA	RACTERISTICS
peed rpm	: 350	†	
avel mm	: 5.30	+	
	: +- 0.10	+ Aneroid pressure	
		+ hPa	: 1000
peed rpm	. 400	Rated speed rpm	
eu rpm	· 4 00		
		+ Del. quantity	
		+ cm3/1000 strokes	: 248.0
ONTROL		+ Tolerance	
eed rpm	: 1050	+ cm3/1000 strokes	: - 3 0
al mm	: 14.40	+ Check tolerance	. 5.0
e Cinaii	. 19.90		
mm	: +- 0.05	+ cm3/1000s.	: +- 6.0
		+ Spreed	
eed rpm	: 600	† Tolerance	
vel mm	: 14.70	+ cm3/1000 strokes	: 8.0
	: +- 0.10	+ Check tolerance	. 0.0
(IMI)	0.10		. 45.0
	0.50	+ cm3/1000s.	: 12.0
eed rpm	: 850	†	
ivel mm	: 14.55	+	
e trim	: ← 0.05	+ rack travel mm	
		+ Tolerance mm	: ← 0.05
/ALTITUDE		İ	
ATOR TEST		+ Aneroid pressure	
		+ hPa	: -
		+ Rated speed rpm	: 500
		+ Del. quantity	
		cm3/1000 strokes	: 143.0
	. 500		. 143.0
ed rpm	: 500	+ Tolerance	. 4.5
Pa	: 1000	+ cm3/1000 strokes	: +- 1.0
	: 5.50	+ Check tolerance	
mm	: +- 0.20	+ cm3/1000s.	: +- 4.0
1107		Spreed	
aad ===	. 500		
	: 500	+ Tolerance	0.0
e hPa	: -	+ cm3/1000 strokes	: 8.0
		+ Check tolerance	
MENT		+ cm3/1000s.	: 12.0
range found of t		,	

REDUCED QUANTITY

Aneroid pressure

hPa : 1000
Rated speed rpm : 1050
rack travel mm : 9.50
Tolerance mm : + 0.15

Del. quantity

cm3/1000 strokes : 168.0

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000s. : +- 5.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 250.0

Tolerance

cm3/1000 strokes : \leftarrow 15.0

Check tolerance

cm3/1000s. : \leftarrow 19.0

LOW IDLE

Rated speed rpm : 350

Rack travel in mm : 5.30
Tolerance mm : + 0.10
Del. quantity

cm3/1000 strokes : 19.0

Tolerance

cm3/1000 strokes : + 3.0

Check tolerance

cm3/1000s. : +- 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 03.04.92 Test oil : ISO 4113

Combination No. : 0 402 648 817

Injection pump

Pump designation : PE8P120A320LS7801

: -10 EP type number : 0 412 628 851

Governor

Governer design. : RQ300/1050PA762-16

Governer no. : 0 421 801 620

Cust. part No. :

Customer-spec. information Customer : MB-NFZ : 0M442 A Motor

Power KW

: 269.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Overflow quantity

min. L/h : 110 Tolerance L/h : + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 2 x length mm : 1000 2.5

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.01

Rack travel in mm : 20.50 Tolerance mm : \leftarrow 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Del. quantity

cm3/1000 strokes : 205.0

Tolerance

cm3/1000 strokes : +- 1.0

		_ +
Check tolerance cm3/1000s.	: + 4.0	GUIDE SLEEVE POSITION
Spreed		-
Tolerance		+ control lever + position degree : 109
cm3/1000 strokes	: 4.0	Rated speed rpm : 600
Check tolerance		Rack travel in mm : 20.00
cm3/1000s.	: 7.0 	+ Tolerance mm : +- 0.80
		+ FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm	: 300	Rated speed rpm : 500
Rack travel in m	n: 6.20	Aneroid pressure
Tolerance mm	: +- 0.20	+ hPa : 1050
Dei. quantity	44.5	+ Del. quantity
cm3/1000 strokes	: 16.0	+ cm3/1000 strokes : 205.0 + Tolerance
Tolerance cm3/1000 strokes	· +- 3 0	+ cm3/1000 strokes : +- 1.0
Check tolerance	3.3	Check tolerance
cm3/1000s.	: +- 6.0	+ cm3/1000s. : + 4.0
Spreed		+ Spreed
Tolerance	5.0	+ Tolerance
cm3/1000 strokes Check tolerance	: 5.0	+ cm3/1000 strokes : 4.0 + Check tolerance
cm3/1000s.	: 8.0	- cm3/1000s. : 7.0
(B) SETTING OF IN	JECTION PUMP	CONTROL LEVER
		+
GUIDE SLEEVE TRAN	/EL	- control lever - position degree : 97.0
Rated speed rpm		control lever position degree : 97.0 tolerance degree : + 4.0
Rated speed rpm guide sleeve	: 1050	control lever position degree : 97.0 tolerance degree : + 4.0 RATED SPEED
Rated speed rpm guide sleeve travel mm	: 1050 : 6.80	control lever position degree : 97.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1050 : 6.80 : + 0.10	control lever position degree : 97.0 tolerance degree : + 4.0 RATED SPEED
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1050 : 6.80	control lever position degree : 97.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1103 Tolerance 1/min : + 8
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1050 : 6.80 : ← 0.10 : 300	control lever position degree : 97.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1103
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1050 : 6.80 : + 0.10	control lever position degree : 97.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1103 Tolerance 1/min : + 8 rack travel mm : 4.00
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1050 : 6.80 : + 0.10 : 300 : 2.30 : + 0.10	control lever position degree : 97.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1103 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1185 Tolerance 1/min : + 15 rack travel mm : 0.75
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm guide sleeve travel mm	: 1050 : 6.80 : + 0.10 : 300 : 2.30 : + 0.10 : 6.00	control lever position degree : 97.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1103 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1185 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1050 : 6.80 : + 0.10 : 300 : 2.30 : + 0.10	control lever position degree : 97.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1103 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1185 Tolerance 1/min : + 15 rack travel mm : 0.75
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm guide sleeve travel mm Tolerance mm Rated speed rpm	: 1050 : 6.80 : + 0.10 : 300 : 2.30 : + 0.10 : 6.00	control lever position degree : 97.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1103 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1185 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 1050 : 6.80 : + 0.10 : 300 : 2.30 : + 0.10 : 6.00 : + 0.10 : 870 : 6.20	control lever position degree : 97.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1103 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1185 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1300
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1050 : 6.80 : + 0.10 : 300 : 2.30 : + 0.10 : 6.00 : + 0.10 : 870	control lever position degree : 97.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1103 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1185 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1050 : 6.80 : + 0.10 : 300 : 2.30 : + 0.10 : 6.00 : + 0.10 : 870 : 6.20	control lever position degree : 97.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1103 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1185 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1300 LOW IDLE
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1050 : 6.80 : + 0.10 : 300 : 2.30 : + 0.10 : 6.00 : + 0.10 : 870 : 6.20 : + 0.10 : 1170	control lever position degree : 97.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1103 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1185 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1300 LOW IDLE control lever
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1050 : 6.80 : + 0.10 : 300 : 2.30 : + 0.10 : 6.00 : + 0.10 : 870 : 6.20 : + 0.10 : 1170 : 9.50	control lever position degree : 97.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1103 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1185 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1300 LOW IDLE

	1	Check
Setting point w/ou	ut bumper spring	speed 1/min : > 80 Check
Rated speed rpm	: 200	speed 1/min : < 240
CRT mm min.	: > 8.00	FUEL DELIVERY CHARACTERISTICS
Testing:	1	
Rated speed rpm rack travel mm Tolerance mm	: 300 : 6.20 : + 0.20	Aneroid pressure hPa : 1050 Rated speed rpm : 1050 Del. quantity
rack travel mm Rated speed rpm Tolerance 1/min	: 400	<pre>cm3/1000 strokes : 179.5 Tolerance cm3/1000 strokes : +- 1.5 Check tolerance</pre>
TORQUE CONTROL		cm3/1000s. : +- 4.5 Spreed Tolerance
Dimension a mm	: 0.75	cm3/1000 strokes : 7.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 12.80 : ← 0.10	cm3/1000S. : 10.0
Rated speed rpm rack travel mm Tolerance mm	: 14.10 +	rack travel mm : 14.10 Tolerance mm : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST		Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity
SETTING	†	cm3/1000 strokes : 147.0 Tolerance cm3/1000 strokes : +- 1.0
Rated speed rpm Pressure hPa	: 600	Check tolerance cm3/1000S. : +- 4.0 Spreed
rack travel mm	: 300 +	Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000S. : 10.0
Tolerance mm MEASUREMENT	: + 0.10	
	: 600	STARTING FUEL DELIVERY
Pressure hPa	: 400	Rated speed rpm : 100 Del. quantity
rack travel mm	: 2.05 : + 0.15	cm3/1000 strokes : 182.5 Tolerance cm3/1000 strokes : +- 7.5
Start interlock		Check tolerance cm3/1000s. : +- 11.5
	: > 100 +	
	+	LOW IDLE

Rated speed rpm	:		300
Rack travel in mm Tolerance mm Del. quantity	:	+	6.20 0.20
cm3/1000 strokes Tolerance	:		16.0
cm3/1000 strokes Check tolerance	:	+	3.0
cm3/1000s. Spreed	:	+-	6.0
Tolerance cm3/1000 strokes Check tolerance	:		5.0
cm3/1000s.	:		8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 20.05.98 Edition Test oil : ISO 4113

Combination No. : 0 402 666 801

Injection pump

Pump designation : PE6P120A320/3LS7854

: -2

EP type number : 0 412 626 935

Governor

Governer design. : RSV550...1050P0A826

: −8

: 0 421 833 454 Governer no.

Cust. part No. : 0250746302

Customer-spec. information Customer : MB-NFZ : OM 441 LA Motor Power KW : 239.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Tolerance l/h: + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05 Check

tolerance mm : + 0.10

Firing order : 6-3-5-2-4-

Phasing : 0-60-120-180-240

: -300

: **←** 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.60 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 224.0

Tolerance + cm3/1000 strokes : +- 1.0	Spreed Tolerance cm3/1000 strokes : 5.0
Check tolerance cm3/1000s. : + 4.0	Check tolerance cm3/1000s. : 9.0
Spreed	
Tolerance cm3/1000 strokes : 5.0	CONTROL LEVER
Check tolerance cm3/1000s. : 9.0	position degree : 96.0 tolerance degree : +- 4.0
	ASSEMBLY GOVERNOR SETTING
Rated speed rpm : 550 + Rack travel in mm : 5.20 +	Rated speed rpm : 1090 rack travel mm : 12.60
Tolerance mm : + 0.10 Del. quantity	Rated speed rpm : 1124
cm3/1000 strokes : 19.0 + Tolerance	Tolerance 1/min : +- 4 rack travel mm : 4.00
cm3/1000 strokes : +- 3.0 +- Check tolerance +-	rack travel mm : 0.85
cm3/1000s. : + 6.0 + 5preed +	Tolerance mm : + 0.55 Rated speed rpm : 1300
Tolerance + cm3/1000 strokes : 6.0 + check tolerance + cm3/1000 strokes : 6.0 + cm3/1000 strokes	Rated speed rpm : 1091
cm3/1000s. : 10.0	rack travel mm : 12.60
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1125 Tolerance 1/min : +- 4 rack travel mm : 4.00
	rack travel mm : 0.85 Tolerance mm : +- 0.55
GUIDE SLEEVE POSITION	Rated speed rpm : 1300
control lever position degree : - 3 Rated speed rpm : 800	Rated speed rpm : 1092 rack travel mm : 12.60
Rack travel in mm: 0.50	Rated speed rpm : 1126 Tolerance 1/min : +- 4
Tolerance mm : +- 0.20	rack travel mm : 4.00
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1300
Rated speed rpm : 1050 Aneroid pressure	
hPa : - + Del. quantity +	Rated speed rpm : 1093 rack travel mm : 12.60
cm3/1000 strokes : 224.0 + Tolerance cm3/1000 strokes : + 1.0 +	Rated speed rpm : 1127 Tolerance 1/min : +- 4
Check tolerance cm3/1000s. : +- 4.0	rack travel mm : 4.00

rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1300 Rated speed rpm : 1094	Rated speed rpm : 750 rack travel mm : 14.20 Tolerance mm : + 0.10
rack travel mm : 12.60	
Rated speed rpm : 1128 Tolerance 1/min : +- 4 rack travel mm : 4.00	FUEL DELIVERY CHARACTERISTICS
rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1300	+ Aneroid pressure + hPa : - + Rated speed rpm : 750 + rack travel mm : 14.20 + Tolerance mm : + 0.10 + Del. quantity
rack travel mm : 12.60	cm3/1000 strokes : 247.0
rack travel mm : 4.00	+ cm3/1000 strokes : + 3.0
rack travel mm : 0.85 Tolerance mm : + 0.55	Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance
LOW IDLE	+ cm3/1000 strokes : 8.0 + Check tolerance + cm3/1000S. : 12.0
control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 450 CRT mm min. :> 8.50	STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 10.0
Testing:	+ Check tolerance + cm3/1000s. : +- 14.0
Rated speed rpm : 550 rack travel mm : 5.20 Tolerance mm : + 0.10	<u> </u>
	LOW IDLE
rack travel mm : 2.00 Tolerance 1/min : +- 20	Rated speed rpm : 550
SET IDLE AUXILIARY SPRING	Rack travel in mm: 5.20 Tolerance mm: + 0.10
rack travel mm : 2.00	Del. quantity cm3/1000 strokes : 19.0
TORQUE CONTROL	+ Tolerance + cm3/1000 strokes : +- 3.0
Rated speed rpm : 1050 rack travel mm : 13.60 Tolerance mm : + 0.05	+ Check tolerance + cm3/1000s. : + 6.0 + Spreed
Rated speed rpm : 500 rack travel mm : 15.70	Tolerance cm3/1000 strokes : 6.0 Check tolerance
Tolerance mm : +- 0.10	+ cm3/1000s. : 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.05.98 : ISO 4113 Test oil

Combination No. : 0 402 736 889

Injection pump

Pump designation : PES6P120A120RS7390

EP type number : 0 412 726 945

Governor

Governer design. : RQV350...1100PA1244K

Governer no. : 0 421 815 477

Cust. part No. : 3283279

Customer-spec. information Customer : CUMMINS Motor : 6CTAA Power KW : 179.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C temp. $^{\circ}C$: 40 Tolerance $^{\circ}C$: \leftarrow 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 1.5

Overflow quantity

90 min. L/h : 90 Tolerance L/h : +- 10.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : \leftarrow 1.0

Prestroke mm : 3.30 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

"NW after s.o.d. : 7.70

Tolerance : +- 0.10

Check

tolerance °NW : **+**→ 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

		1
Rack travel in mm Tolerance mm	: 13.70 : +- 0.05	Rated speed rpm : 420 guide sleeve travel mm : 4.28
Del. quantity cm3/1000 strokes	: 173.0	Tolerance mm : + 0.25
Tolerance cm3/1000 strokes	: + 1.0	+ Rated speed rpm : 1380 + guide sleeve + travel mm : 13.50
Check tolerance cm3/1000s.	: + 4.0	+ Tolerance mm : + 0.50
Spreed		+ GUIDE SLEEVE POSITION +
Tolerance cm3/1000 strokes	: 5.0	control lever position degree : - 1 Rated speed rpm : 1195
Check tolerance cm3/1000s.	: 9.0	+ Rack travel in mm : 12.00 + Tolerance mm : +- 2.00
Rated speed rpm	: 350	FULL LOAD DELIVERY AT FULL LOAD STOP
	: 4.60 : ← 0.10	Rated speed rpm : 1100 Aneroid pressure
Del. quantity cm3/1000 strokes Tolerance		+ hPa : 1500 + Del. quantity + cm3/1000 strokes : 173.0
cm3/1000 strokes : Check tolerance		+ Tolerance + cm3/1000 strokes : + 1.0
cm3/1000S. Spreed Tolerance	: +- 5.0	+ Check tolerance + cm3/1000S. : +- 4.0 + Spreed
cm3/1000 strokes :		Tolerance cm3/1000 strokes : 5.0
cm3/1000s.	: 11.0	+ Check tolerance + cm3/1000S. : 9.0
(B) SETTING OF INJE	ECTION PUMP	<u> </u>
		+ CONTROL LEVER
GUIDE SLEEVE TRAVEL	_	control lever position degree : 68.0
guide sleeve	1159	tolerance degree : +- 4.0
travel mm : Tolerance mm :	10.27 +- 0.15	<pre>control lever position degree : 122.0 tolerance degree : +- 4.0</pre>
guide sleeve	350 1.93	RATED SPEED
travel mm : Tolerance mm :	+ 0.20	rack travel mm : 12.70 Rated speed rpm : 1145 Tolerance 1/min : +- 5
guide sleeve	710	rack travel mm : 4.00
travel mm : Tolerance mm :	5.79 + 0.25	+ Rated speed rpm : 1240 + Tolerance 1/min : +- 15

Check speed 1/min : +- 20	+ Rated speed rpm : 700 + Pressure hPa : -
rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1350	rack travel mm : 10.40 Tolerance mm : +- 0.20
Rated speed rpm : 1350	T MEASUREMENT
	Rated speed rpm : 700
LOW IDLE	Pressure hPa : 400 rack travel mm : 11.70 Tolerance mm : +- 0.20
control lever position degree : 74.0 tolerance degree : +- 4.0 control lever	Pressure hPa : 600 rack travel mm : 13.30 Tolerance mm : +- 0.05
position degree : 20.0 tolerance degree : +- 4.0	Start interlock
Setting point w/out bumper spring	Rated speed rpm : > 100 Rated speed rpm : < 290
Rated speed rpm : 250	+ Check
CRT mm min. : > 7.50	speed 1/min : > 80 + Check
Testing:	speed 1/min : < 300
Data diamental many 250	
Rated speed rpm : 350 rack travel mm : 4.60 Tolerance mm : + 0.10	FUEL DELIVERY CHARACTERISTICS
rack travel mm : 4.60	Aneroid pressure hPa : 1500
rack travel mm : 4.60 Tolerance mm : + 0.10 Rated speed rpm : 350 TORQUE CONTROL	Aneroid pressure hPa : 1500 Rated speed rpm : 700 Del. quantity
rack travel mm : 4.60 Tolerance mm : + 0.10 Rated speed rpm : 350	Aneroid pressure hPa : 1500 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 171.0 Tolerance cm3/1000 strokes : + 3.0
rack travel mm : 4.60 Tolerance mm : + 0.10 Rated speed rpm : 350 TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 13.70 Tolerance mm : + 0.05 Rated speed rpm : 700	Aneroid pressure hPa : 1500 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 171.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0
rack travel mm : 4.60 Tolerance mm : + 0.10 Rated speed rpm : 350 TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 13.70 Tolerance mm : + 0.05 Rated speed rpm : 700 rack travel mm : 13.85 Tolerance mm : + 0.10	Aneroid pressure hPa : 1500 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 171.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 8.0
rack travel mm : 4.60 Tolerance mm : + 0.10 Rated speed rpm : 350 TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 13.70 Tolerance mm : + 0.05 Rated speed rpm : 700 rack travel mm : 13.85	Aneroid pressure hPa : 1500 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 171.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000S. : + 6.0 Spreed Tolerance
rack travel mm : 4.60 Tolerance mm : + 0.10 Rated speed rpm : 350 TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 13.70 Tolerance mm : + 0.05 Rated speed rpm : 700 rack travel mm : 13.85 Tolerance mm : + 0.10 Rated speed rpm : 500 rack travel mm : 12.95	Aneroid pressure hPa : 1500 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 171.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000S. : + 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
rack travel mm : 4.60 Tolerance mm : + 0.10 Rated speed rpm : 350 TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 13.70 Tolerance mm : + 0.05 Rated speed rpm : 700 rack travel mm : 13.85 Tolerance mm : + 0.10 Rated speed rpm : 500 rack travel mm : 12.95 Tolerance mm : + 0.15	Aneroid pressure hPa : 1500 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 171.0 Tolerance cm3/1000strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 rack travel mm : 12.95 Tolerance mm : + 0.15
rack travel mm : 4.60 Tolerance mm : + 0.10 Rated speed rpm : 350 TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 13.70 Tolerance mm : + 0.05 Rated speed rpm : 700 rack travel mm : 13.85 Tolerance mm : + 0.10 Rated speed rpm : 500 rack travel mm : 12.95 Tolerance mm : + 0.15 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 700	Aneroid pressure hPa : 1500 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 171.0 Tolerance cm3/1000strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 rack travel mm : 12.95 Tolerance mm : + 0.15 Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity
rack travel mm : 4.60 Tolerance mm : + 0.10 Rated speed rpm : 350 TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 13.70 Tolerance mm : + 0.05 Rated speed rpm : 700 rack travel mm : 13.85 Tolerance mm : + 0.10 Rated speed rpm : 500 rack travel mm : 12.95 Tolerance mm : + 0.15 ANEROID/ALTITUDE COMPENSATOR TEST	Aneroid pressure hPa : 1500 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 171.0 Tolerance cm3/1000s. : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 rack travel mm : 12.95 Tolerance mm : + 0.15 Aneroid pressure hPa : - Rated speed rpm : 500

Check tolerance cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm : 20.50
Tolerance mm : + 0.50

Del. quantity cm3/1000 strokes : 190.0

Tolerance

cm3/1000 strokes : \leftarrow 20.0

Check tolerance

: +- 24.0 cm3/1000s.

LOW IDLE

Rated speed rpm : 350

Rack travel in mm: 4.60 Tolerance mm : + 0.10 Del. quantity

cm3/1000 strokes : 18.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : +- 5.0

Spreed

Tolerance

cm3/1000 strokes : 7.0

Check tolerance

cm3/1000s. : 11.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 20.05.98 : ISO 4113

Combination No. : 0 402 746 655

Injection pump

Pump designation : PES6P120A320RS7343

EP type number : 0 412 726 915

Governor

Governer design. : RQV300...1000PA1160

: -1K

Governer no.

: 0 421 815 559

Cust. part No. : 5168 66-250

Customer-spec. information

Customer : RENAULT V.I. : MIDR 062356 B41

Motor Power KW

: 288.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

: 208.5

Tolerance bar : \leftarrow 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.50 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 11.00 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.50

Check

: +- 0.75 tolerance °NW

Start of delivery mark

 $^{\circ}$ NW after s.o.d. : -0.40Tolerance : \leftarrow 0.50

Check

: +- 0.75 tolerance °NW

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

21.00

and maximum rack

travel 11.00 Difference ° CS : 2.25

CRT ZERO POSITION

D28

		+ Tolerance mm : +- 0.20
Rack travel in m Tolerance mm		Rated speed rpm : 827 guide sleeve
TOCCT ATTIC THAT		travel mm : 5.96
DAGIC CETTING		- Tolerance mm : + 0.25
BASIC SETTING		Rated speed rpm : 550
Rated speed rpm	: 1000	+ Rated speed rpm : 550 + guide sleeve
nateu specu i pii	. 1000	travel mm : 3.66
Del. quantity cm3/1000 strokes	: : 356.0	Tolerance mm : +- 0.25
		_ + Rated speed rpm : 1440
Tolerance	1.0	+ guide sleeve
cm3/1000 strokes	: : ← 1.0	+ travel mm : 13.50 + Tolerance mm : + 0.50
Check tolerance	: +- 4.0	
cm3/1000S.	. +- 4.0	GUIDE SLEEVE POSITION
Spreed		TOTAL SCREAL LOSTITUA
Opt CCG		
Tolerance		control lever
cm3/1000 strokes	: 5.0	<pre> position degree : − 1 </pre>
		Rated speed rpm : 1275
Check tolerance		+
cm3/1000s.	: 9.0	+ Rack travel in mm : 12.00
		_ + Tolerance mm : +- 1.30
		<u> </u>
Rated speed rpm	: 300	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in m	m: −7.80	Rated speed rpm : 1000
Tolerance mm		+ Aneroid pressure
Del. quantity		hPa : 1200
cm3/1000 strokes	: 39.0	+ Del. quantity
Tolerance		+ cm3/1000 strokes : 356.0
cm3/1000 strokes	: +- 1.5	+ Tolerance
Check tolerance		+ cm3/1000 strokes : + 1.0
cm3/1000s.	: +- 5.0	Check tolerance
Spreed		+ cm3/1000s. : + 4.0
Tolerance cm3/1000 strokes	. 80	+ Spreed + Tolerance
Check tolerance		cm3/1000 strokes : 5.0
cm3/1000S.	: 12.0	Check tolerance
	· 1 w 1 w	+ cm3/1000s. : 9.0
(2)	ALLEGE CALL DI 18-7-	+
(B) SETTING OF IN	NJECTION PUMP	†
WITH GOVERNOR		CONTROL LEVER
		- T CONTROL LEVER
GUIDE SLEEVE TRAN	VFL	T control lever
TOURS OFFERE (IVI)	·	position degree : 296.0
Rated speed rpm	: 1113	tolerance degree : + 4.0
guide sleeve		+
travel mm	: 8.82	+ RATED SPEED
Tolerance mm	: ← 0.15	rack travel mm : -1.00
	700	+ Rated speed rpm : 1100
Rated speed rpm	: 300	+ Tolerance 1/min : + 5
guide sleeve	. 1.30	nock thought and a good
travel mm	: 1.29	+ rack travel mm : −9.00

Rated speed rpm Tolerance 1/min	
rack travel mm Tolerance mm Rated speed rpm	: ← 0.50
LOW IDLE	
control lever position degree tolerance degree	: 252.0 : ← 4.0
Setting point w/c	out bumper spring
Rated speed rpm	: 200
CRT mm min.	: > -6.80
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : −7.80 : ← 0.10
Rated speed rpm	: 390
TORQUE CONTROL Rated speed rpm	: 1000
Rated speed rpm rack travel mm Tolerance mm	: 600 : −0.65 : ← 0.15
Rated speed rpm rack travel mm Tolerance mm	: 800 : 0.10 : + 0.15
Rated speed rpm rack travel mm Tolerance mm	: 350 : −1.75 : ← 0.30
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm	
Pressure hPa	: 1200

Tolerance mm	: +- 0.30
MEASUREMENT	
Rated speed rpm	: 1000
Pressure hPa rack travel mm Tolerance mm	: 320 : -3.00 : +- 0.15
Pressure hPa rack travel mm Tolerance mm	: 520 : −1.90 : ← 0.05
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 225
Check speed 1/min	: > 80
Check speed 1/min	: < 245
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 1200 : 600
Tolerance cm3/1000 strokes	
Check tolerance cm3/1000s.	: +- 6.0
rack travel mm Tolerance mm	: 0.10 : + 0.15
Aneroid pressure hPa Rated speed rpm	: - : 500
Del. quantity cm3/1000 strokes	: 238.0
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1000s.	: + 4.0
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm	: 100 : 20.25

Tolerance mm	: ← 0.75
Del. quantity cm3/1000 strokes	: 185.0
Tolerance	. 103.0
cm3/1000 strokes	: +- 15.0
Check tolerance cm3/1000s.	: +- 19.0

LOW IDLE

Rated speed rpm	:	300	
Rack travel in mm Tolerance mm	: +-	-7.80 0.10	
Del. quantity cm3/1000 strokes Tolerance	:	39.0	
cm3/1000 strokes Check tolerance	: +-	1.5	
cm3/1000s. Spreed	: +-	5.0	
Tolerance cm3/1000 strokes	:	8.0	
Check tolerance cm3/1000s.	:	12.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.05.98 Test oil : ISO 4113

Combination No. : 0 402 846 302

Injection pump

Pump designation : PE6P120A320RS8520 EP type number : 0 412 826 202

Governor

Governer design. : RQV275...1000PA1269K

Governer no. : 0 421 815 969

Cust. part No. : 1310222/2

Customer-spec. information Customer : DAF Motor : XF 355 M Power KW : 355.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : \leftarrow 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110 Tolerance L/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.85
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance "NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

travel in mm · 14 05

Rack travel in mm : 14.05 Tolerance mm : + 0.05

		+ guide sleeve
Del. quantity cm3/1000 strokes	: 344.0	travel mm : 13.50 Tolerance mm : +- 0.50
	. 344.0	Toterance nam . += 0.50
Tolerance cm3/1000 strokes	: + 1.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s.	: + 5.0	Rated speed rpm : 1121
Spreed		+ Rack travel in mm : 13.30 + Tolerance mm : +- 1.30
·		+
Tolerance cm3/1000 strokes	: 8.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	. 47.0	Rated speed rpm : 980
cm3/1000S.	: 13.0	+ Aneroid pressure + hPa : 1500
		Del. quantity
Rated speed rpm	: 275	t cm3/1000 strokes : 344.0 Tolerance
		+ cm3/1000 strokes : +- 1.0
Rack travel in mm Tolerance mm	: 4.50 : +- 0.10	+ Check tolerance + cm3/1000s. : + 5.0
Del. quantity	: +- 0.10	+ Spreed
cm3/1000 strokes	: 18.0	+ Tolerance
Tolerance		+ cm3/1000 strokes : 8.0
cm3/1000 strokes	: ← 3.0	+ Check tolerance
Check tolerance cm3/1000s.	: +- 6.0	± cm3/1000s. : 13.0
Spreed	0.0	Ţ
Tolerance		
cm3/1000 strokes	: 6.0	+ CONTROL LEVER
Check tolerance	. 42.0	†
cm3/1000s.	: 12.0	+ control lever + position degree : 118.0
		tolerance degree : +- 4.0
(B) SETTING OF INJ	JECTION PUMP	+
WITH GOVERNOR		+ RATED SPEED
		rack travel mm : 13.05
GUIDE SLEEVE TRAVE		
GOIDE SEEEAE INVA		Check
Rated speed rpm	: 1058	+ speed 1/min : + 10
guide sleeve		†
travel mm	: 9.97	rack travel mm : 4.00
Tolerance mm	: +- 0.15	+ Rated speed rpm : 1140 + Tolerance 1/min : +- 15
Rated speed rpm	: 275	Check
guide sleeve		- speed 1/min : + 20
travel mm	: 2.04	†
Tolerance mm	: +- 0.20	+ rack travel mm : 0.70
Rated speed rpm	: 399	+ Tolerance mm : + 0.70 + Rated speed rpm : 1275
guide sleeve	. 3//	indica speca (piii . 121)
travel mm	: 3.65	+
Tolerance mm	: ← 0.25	+
Dated speed rom	: 1260	+ LOW IDLE
Rated speed rpm	. 1200	T LOW IDEL

control lever position degree tolerance degree	: 73.0 : +- 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 175
CRT mm min.	: > 7.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : 4.50 : ← 0.10
Rated speed rpm	: 300
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 800 : 14.05 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 700 : 13.40 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 600 : 12.80 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 500 : 12.45 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 980 : 14.30 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 980 : 1500 : 14.05 : +- 0.05

Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 980 : - : 9.00 : + 0.10
MEASUREMENT	
Rated speed rpm	: 980
Pressure hPa rack travel mm Tolerance mm	: 750 : 12.80 : + 0.05
Pressure hPa rack travel mm Tolerance mm	: 380 : 10.30 : ← 0.15
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	
Aneroid pressure	: 1500
Aneroid pressure hPa Rated speed rpm	: 1500 : 750
Aneroid pressure hPa Rated speed rpm rack travel mm	: 1500 : 750 : 13.80
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 1500 : 750
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes	: 1500 : 750 : 13.80
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: 1500 : 750 : 13.80 : + 0.05 : 361.0
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1500 : 750 : 13.80 : + 0.05
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 1500 : 750 : 13.80 : + 0.05 : 361.0 : + 2.0
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1500 : 750 : 13.80 : + 0.05 : 361.0
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 1500 : 750 : 13.80 : + 0.05 : 361.0 : + 2.0
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 1500 : 750 : 13.80 : + 0.05 : 361.0 : + 2.0
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 1500 : 750 : 13.80 : + 0.05 : 361.0 : + 2.0 : + 6.0
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: 1500 : 750 : 13.80 : + 0.05 : 361.0 : + 2.0 : + 6.0
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 1500 : 750 : 13.80 : + 0.05 : 361.0 : + 2.0 : + 6.0
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa	: 1500 : 750 : 13.80 : ← 0.05 : 361.0 : ← 2.0 : ← 6.0 : 10.0 : 15.0
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm	: 1500 : 750 : 13.80 : + 0.05 : 361.0 : + 2.0 : + 6.0
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity	: 1500 : 750 : 13.80 : + 0.05 : 361.0 : + 2.0 : + 6.0 : 10.0 : 15.0
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm	: 1500 : 750 : 13.80 : ← 0.05 : 361.0 : ← 2.0 : ← 6.0 : 10.0 : 15.0

III a	4		
Rated speed rpm	:		600
Del. quantity			
cm3/1000 strokes	:		199.0
Tolerance			
cm3/1000 strokes	:	+-	1.0
Check tolerance			
cm3/1000s.	:	+-	5.0
Spreed			
Tolerance			

cm3/1000 strokes : 10.0 Check tolerance cm3/1000s. : 15.0

LOW IDLE

Rated speed opm	:		275
144014110		+	4.50 0.10
Del. quantity cm3/1000 strokes Tolerance	:		18.0
cm3/1000 strokes Check tolerance	:	+-	3.0
cm3/1000S. Spreed	:	+-	6.0
Tolerance cm3/1000 strokes Check tolerance	:		6.0
cm3/1000s.	:		12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 26.05.98 Test oil : 20.05.98

Combination No. : 0 402 018 703

Injection pump

Pump designation : PES8P130A300RS3403

EP type number : 0 412 038 700

Governor

Governer design. : Governer no.

Cust. part No. :

Customer-spec. information

Customer : FINCANTIERI : V 1308T3 Motor

: 520.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

E08

x inside diameter: 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

: 3.55 : +- 0.05 Prestroke mm Tolerance mm

Check

: **←** 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-2-7-8-4 : -5-6-3

: 0-45-90-135-180 Phasing : -225-270-315

Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 750

Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 288.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance : +- 4.0 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 5.0

Check tolerance cm3/1000S.	: 9.0
Rated speed rpm	: 350
Del. quantity cm3/1000 strokes	: 39.0
Tolerance cm3/1000 strokes Check tolerance	: 3.0
cm3/1000s. Spreed	: ← 6.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000S.	: 12.0
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP
FULL LOAD DELIVER	RY AT FULL LOAD STOP
Rated speed rpm Aneroid pressure	: 750
hPa Del. quantity	: -
cm3/1000 strokes Tolerance	: 288.0
cm3/1000 strokes Check tolerance	
cm3/1000S. Spreed	: +- 4.0
Tolerance cm3/1000 strokes Check tolerance	: 5.0
cm3/1000S.	: 9.0
TORQUE CONTROL Rated speed rpm Tolerance mm	: 750 : ← 0.05
LOW IDLE	

Del. quantity		
cm3/1000 strokes	:	39.0
Tolerance		
cm3/1000 strokes	: +-	3.0
Check tolerance		
cm3/1000s.	: +-	6.0
Spreed		
Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance		
cm3/1000s.	:	12.0

End of test specification sheet

Rated speed rpm : 350

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 01.04.98 Test oil : ISO 4113

Combination No. : 0 402 076 807

Injection pump

Pump designation : PES6P120A720RS3378 EP type number : 0 412 026 799

Governor

Governer design. : RSV450...1050P5A647

Governer no. : 0 421 833 564

Cust. part No. :

Customer-spec. information

Customer : IVECO-FIAT

Motor : 8365.26.532 Power KW : 117.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

40 : 40 : + 2.0 temp. °C Tolerance °C

Overflow valve : 2 417 413 034

Inlet press. bar : 2.5

Overflow quantity

min. l/h : 260 Tolerance l/h : ← 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.55
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50

Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 8.55 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 115.0

Tolerance

cm3/1000 strokes : +- 1.0

E10

Check tolerance cm3/1000s. : +- 4.0	+ Check tolerance + cm3/1000S. : + 4.0 + Spreed
Spreed	+ Tolerance
Tolerance cm3/1000 strokes : 5.0	- cm3/1000 strokes : 5.0 - Check tolerance - cm3/1000s. : 9.0
Check tolerance cm3/1000s. : 9.0	CONTROL LEVED
	CONTROL LEVER
Rated speed rpm : 425	control lever position degree : 116.0
Rack travel in mm : 5.00 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 24.0	RATED SPEED rack travel mm : 7.40 Rated speed rpm : 1095 Tolerance 1/min : + 5
Tolerance cm3/1000 strokes : +- 3.0	+ Check + speed 1/min : +- 10
Check tolerance cm3/1000S. : +- 6.0 Spreed Tolerance	rack travel mm : 4.00 Rated speed rpm : 1135 Tolerance 1/min : + 15
cm3/1000 strokes : 8.0 Check tolerance	rack travel mm : 0.85
cm3/1000s. : 12.0	Tolerance mm : + 0.55 Rated speed rpm : 1400
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1155 Tolerance 1/min : + 15 Check speed 1/min : + 20
GUIDE SLEEVE POSITION	speed 1/mm . + 20
control lever position degree : - 3 Rated speed rpm : 800	LOW IDLE
Rack travel in mm : 0.50 Tolerance mm : +- 0.20	control lever position degree : 93.0
governor spring pre-tension	Setting point w/out bumper spring
click setting x : 5.00	Rated speed rpm : 425 rack travel mm : 4.50 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Testing:
Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 115.0	Rated speed rpm : 425 rack travel mm : 5.00 Tolerance mm : +- 0.10
Tolerance cm3/1000 strokes : +- 1.0	rack travel mm : 2.00 Rated speed rpm : 605 Tolerance 1/min : +- 50

TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1050 : 8.55 : +- 0.05
Rated speed rpm	: 700
rack travel mm	: 8.60
Tolerance mm	: + 0.10
Rated speed rpm	: 320
rack travel mm	: 9.10
Tolerance mm	: + 0.20
Rated speed rpm	: 450
rack travel mm	: 8.60
Tolerance mm	: +- 0.20

Aneroid pressure			
hPa	:		
Rated speed rpm	:		700
Del. quantity cm3/1000 strokes	:		106.0
Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	+-	3.0
	:	+	6.0
rack travel mm	:		9.10
Tolerance mm	:	+-	0.20

STARTING FUEL DELIVERY

Del. quantity cm3/1000 strokes	:	110.0
Tolerance cm3/1000 strokes		- 15.0
Check tolerance cm3/1000s.		- 19.0
UIID/ 10003.	. '	17.0

LOW	IDLE
_~,	

Rated speed	rpm	:	425
Rack travel	in mm	:	5.00
Tolerance mm	1	•	+-0.10

Del. quantity		
cm3/1000 strokes	:	24.0
Tolerance		
cm3/1000 strokes	: +-	3.0
Check tolerance		
cm3/1000s.	: +-	6.0
Spreed		
Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance		
cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 08.05.98 Test oil : ISO 4113

Combination No. : 0 402 746 633

Injection pump

Pump designation : PES6P120A720RS7366

EP type number : 0 412 726 933

Governor

Governer design. : RQ300/1050PA1344

Governer no. : 0 421 801 821

Cust. part No. :

Customer—spec. information

Customer : IVECO-FRANCE

: 8460.41R.7143 Motor

Power KW : 214.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 2 417 413 076

Inlet press. bar : 2.5

Tolerance bar : \leftarrow 0.1

Overflow quantity

min. l/h : 160 Tolerance l/h : + 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : \leftarrow 1.0

: 2.85 Prestroke mm

: +- 0.05 Tolerance mm

Check

tolerance mm : **←** 0.10

Rack travel in mm : 20.50

Tolerance mm : \leftarrow 0.50

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance °NW : **←** 0.40

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.35 Tolerance mm : + 0.05	Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 226.0
Del. quantity cm3/1000 strokes : 226.0	Tolerance cm3/1000 strokes : +- 1.0
Tolerance cm3/1000 strokes : + 1.0	Check tolerance cm3/1000s. : +- 4.0 Spreed
Check tolerance cm3/1000s. : + 4.0	Tolerance cm3/1000 strokes : 5.0 Check tolerance
Spreed	cm3/1000s. : 9.0
Tolerance cm3/1000 strokes : 5.0	RATED SPEED rack travel mm : 10.50 Rated speed rpm : 1103
Check tolerance cm3/1000s. : 9.0	Tolerance 1/min : +- 8 Check speed 1/min : +- 13
Rated speed rpm : 300	rack travel mm : 4.00 Rated speed rpm : 1175 Tolerance 1/min : +- 15
Rack travel in mm: 6.30 + Tolerance mm: + 0.10 + Del. quantity	Check speed 1/min : +- 20
cm3/1000 strokes : 20.0 + Tolerance cm3/1000 strokes : + 3.0 + Cm3/1000 strokes : + 3.0	rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1350
Check tolerance cm3/1000s. : +- 6.0 +- Spreed	
Tolerance + cm3/1000 strokes : 8.0 + Check tolerance +	LOW IDLE
cm3/1000s. : 12.0	control lever position degree : 75.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	tolerance degree : + 4.0
	Setting point w/out bumper spring Rated speed rpm : 200
GUIDE SLEEVE POSITION	CRT mm min. : > 7.80
control lever + position degree : 109	Testing:
position degree : 109 Rated speed rpm : 500	Rated speed rpm : 300 rack travel mm : 6.30
Rack travel in mm : 20.00 Tolerance mm : + 0.80	Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 2.00 Rated speed rpm : 395 Tolerance 1/min : +- 20
Rated speed rpm : 1050	TORQUE CONTROL
'	

Rated speed rpm rack travel mm Tolerance mm	: 11.35 : +- 0.05 : 425	- Check - speed 1/min : > 80 - Check - speed 1/min : < 260
rack travel mm Tolerance mm	: +- 0.10	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm rack travel mm Tolerance mm	: 12.50	Aneroid pressure hPa : 1200 Rated speed rpm : 500
Rated speed rpm rack travel mm Tolerance mm	: 12.85	rack travel mm : 12.50 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 256.0
Rated speed rpm rack travel mm Tolerance mm	: 950 : 12.00 : +- 0.20	Tolerance - cm3/1000 strokes : + 4.0 - Check tolerance - cm3/1000s. : + 7.0
Rated speed rpm rack travel mm Tolerance mm	: 13.50	Aneroid pressure hPa : - Rated speed rpm : 600
ANEROID/ALTITUDE COMPENSATOR TEST		Del. quantity cm3/1000 strokes : 148.0 Tolerance cm3/1000 strokes : + 1.0
SETTING		- Check tolerance - cm3/1000s. : +- 4.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1200 : 12.90	STARTING FUEL DELIVERY
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: – : 9.60	Rated speed rpm : 100 rack travel mm : 11.60 Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 100.0 Tolerance
Rated speed rpm	: 600	cm3/1000 strokes : + 15.0 + Check tolerance
Pressure hPa rack travel mm Tolerance mm	: 260 : 10.30 : ← 0.20	+ cm3/1000s. : ← 19.0
Pressure hPa rack travel mm Tolerance mm	: 420 : 12.00 : + 0.05	LOW IDLE Rated speed rpm : 300
Start interlock Rated speed rpm Rated speed rpm		Rack travel in mm: 6.30 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 20.0 Tolerance cm3/1000 strokes: + 3.0

Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 25.05.98 Test oil : ISO 4113

Combination No. : 0 402 846 302

Injection pump

Pump designation : PE6P12OA32ORS8520 EP type number : 0 412 826 202

Governor

Governer design. : RQV275...1000PA1269K

Governer no. : 0 421 815 969

Cust. part No. : 1310222/2

Customer—spec. information
Customer : DAF
Motor : XF 355 M
Power KW : 355.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : \leftarrow 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110 Tolerance L/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.85 Tolerance mm : +- 0.05

Check

tolerance mm : ← 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery mark

Tolerance : +-0.10

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 14.05 Tolerance mm : +- 0.05

	ı	guido al aqua
Dal guantitu		guide sleeve
Del. quantity cm3/1000 strokes	: 344.0	travel mm : 13.50 Tolerance mm : +- 0.50
Tolerance	I	
cm3/1000 strokes	: ← 1.0	GUIDE SLEEVE POSITION
Check tolerance	5.0	Rated speed rpm : 1121
cm3/1000s.	: +- 5.0	Rack travel in mm : 13.30
Spreed		Tolerance mm : +- 1.30
Tolerance cm3/1000 strokes	: 8.0	FULL LOAD DELIVERY AT FULL LOAD STOP
	 +	
Check tolerance cm3/1000s.	: 13.0	Rated speed rpm : 980 Aneroid pressure
		hPa : 1500
	+	Del. quantity
	+	cm3/1000 strokes : 344.0
Rated speed rpm	: 2/5	Tolerance
Daal Americal de sus		cm3/1000 strokes : +- 1.0
Rack travel in mm	: + 0.10	Check tolerance cm3/1000s. : ← 5.0
	. — 0.10	Spreed : +- 3.0
Del. quantity cm3/1000 strokes	: 18.0	Tolerance
Tolerance	· 18.0	cm3/1000 strokes : 8.0
cm3/1000 strokes	· +- 30 I	Check tolerance
Check tolerance	I	cm3/1000s. : 13.0
cm3/1000S.	: + 6.0	(1137 10003 13.0
Spreed	1	
Tolerance	1	·····
cm3/1000 strokes	: 6.0	CONTROL LEVER
Check tolerance	. 0.5	CONTROL LEVEN
cm3/1000S.	: 12.0	control lever
	1	position degree : 118.0
	1	tolerance degree : +- 4.0
(B) SETTING OF IN.	JECTION PUMP	
WITH GOVERNOR	1	RATED SPEED
	+	rack travel mm : 13.05
		Rated speed rpm : 1045
GUIDE SLEEVE TRAVE	EL +	Tolerance 1/min : +- 5
	+	Check
Rated speed rpm guide sleeve	: 1058	speed 1/min : +- 10
travel mm	: 9.97	rack travel mm : 4.00
Tolerance mm	: ← 0.15 +	Rated speed rpm : 1140
	+	Tolerance 1/min : + 15
Rated speed rpm	: 275 +	Check
guide sleeve	+	speed 1/min : +- 20
travel mm	: 2.04	
Tolerance mm	: +- 0.20 +	rack travel mm : 0.70
	+	Tolerance mm : +- 0.70
Rated speed rpm	: 399 +	Rated speed rpm : 1275
guide sleeve	†	
travel mm	: 3.65	
Tolerance mm	: +- 0.25	
Rated speed rpm	: 1260	LOW IDLE
	_i	

		,	
control lever		Rated speed rpm	. 980
position degree	• 73.0	Pressure tPa	. ,00
tolerance degree	· +- 4 O	Pressure tPa rack travel mm	. 9 00
totelance degree	4.0	Tolerance mm	
Setting point w/o	out bumper spring	MEASUREMENT	. +- 0.10
Rated speed rpm	: 175	Rated speed rpm	. 090
CRT mm min.	: > 7.00	+	
		+ Pressure hPa	: 750 : 12.80
Testing:		rack travel mm Tolerance mm	: 12.80 : +- 0.05
Rated speed rpm	: 275	+	
rack travel mm Tolerance mm	: 4.50	+ Pressure hPa	: 380
Tolerance mm	: 0.10	† rack travel mm	
		† Tolerance mm	: +- 0.15
Rated speed rpm	: 300	+	
TORQUE CONTROL		FUEL DELIVERY CHARA	ACTERISTICS
Rated speed rpm	: 9 8 0	+	
rack travel mm	: 14.05	+	
Tolerance mm	: +- 0.05	+ Aneroid pressure	
		+ hPa	: 1500
Rated speed rpm	: 800	Rated speed rpm	: 750
rack travel mm	: 14.05	+ rack travel mm	: 13.80
Tolerance mm	: +- 0.10	+ Tolerance mm	
		<pre>Del. quantity</pre>	
Rated speed rpm rack travel mm	: 750	+ cm3/1000 strokes	361.0
rack travel mm	: 13.80	+ Tolerance	
rack travel mm Tolerance mm	: + 0.05	+ cm3/1000 strokes	: +- 2.0
, , , , , , , , , , , , , , , , , , ,		- Check tolerance	
Rated speed rpm	: 700	+ cm3/1000s.	: +- 6.0
rack travel mm	: 13.40	Spreed	
Tolerance mm		+ Tolerance	
	31,10	+ cm3/1000 strokes	10.0
Rated speed rom	. 400	+ Check tolerance	10.0
Rated speed rpm rack travel mm	. 12 80	+ cm3/1000s.	: 15.0
Tolerance mm		I ciris/ 10003.	. 15.0
rocer arice min	0.10		
Rated speed rpm	: 500	Aneroid pressure	
rack travel mm	: 12.45	+ hPa :	
Tolerance mm	: + 0.10		600
Total alice limit	0.10	Del. quantity	000
Rated speed rpm	. 980	cm3/1000 strokes :	199 በ
rack travel mm	• 14 30	+ Tolerance	177.0
Tolerance mm	· +- 0.10	- cm3/1000 strokes :	+- 1 0
rocci di loc tinii		+ Check tolerance	
	·		+- 5.0
ANEROID/ALTITUDE		+ Spreed	. 3.0
COMPENSATOR TEST		+ Tolerance	
COM ENGINEER TEST		+ cm3/1000 strokes :	10.0
		+ Check tolerance	.5.5
SETTING		- cm3/1000s. :	15.0
		1	.5.5
Rated speed rpm	: 980	1	
Pressure hPa		1	
rack travel mm	: 14.05	\perp	
Tolerance mm	: + 0.05	I	
וטנכו מוונכ ווזוו	0.05	Т	

LOW IDLE

275 Rated speed rpm : Rack travel in mm : 4.50 : +- 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 30.05.98 Test oil : ISO 4113

Combination No. : 0 400 464 106

Injection pump

Pump designation : PES4A80D320/3RS1301

EP type number : 0 410 484 016

Governor

Governer design. : RSV300...1000A7C505R

Governer no. : 0 420 233 188

Cust. part No. :

Customer-spec. information

Customer : MWM

Motor : D226-4

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.0

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-3-4-2

Phasing : 0-90-180-270

BASIC SETTING

Del. quantity cm3/1000 strokes : 48.5

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

cm3/1000s. : +- 2.0

Spreed

Tolerance

cm3/1000 strokes : 2.5

Check tolerance cm3/1000s. : 4.0

Rated speed rpm : 300

Rack travel in mm : 7.00 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 11.0 Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : +- 4.5

Tolerance

cm3/1000 strokes : 2.0

Check tolerance cm3/1000s. : 3.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever

position degree : - 3 Rated speed rpm : 800

Rack travel in mm: 0.65 Tolerance mm : +- 0.35

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 980 Aneroid pressure hPa Del. quantity cm3/1000 strokes : 48.5 Tolerance cm3/1000 strokes : \leftarrow 0.5 Check tolerance cm3/1000s. : \leftarrow 2.0 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance : 4.0 cm3/1000s.

CONTROL LEVER

control lever

position degree : 62.0 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 8.70
Rated speed rpm : 1025
Tolerance 1/min : + 5

rack travel mm : 4.00 Rated speed rpm : 1055 Tolerance 1/min : ← 15

rack travel mm : 1.00 Tolerance mm : + 0.70 Rated speed rpm : 1210

rack travel mm : 4.00 Rated speed rpm : 1065

Tolerance 1/min : + 15

LOW IDLE

control lever

position degree : 25.0 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 300 rack travel mm : 7.50 Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

Testing:

Rated speed rpm : 300 rack travel mm : 7.00 Tolerance mm : $\leftarrow 0.10$

rack travel mm : 2.00 Rated speed rpm : 420 Tolerance 1/min : ← 30

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : + 0.75 Del. quantity Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 strokes : \leftarrow 8.0 Check tolerance cm3/1000s. : ← 11.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 7.00 Tolerance mm : +- 0.10

Del. quantity cm3/1000 strokes	:	11.0
Tolerance cm3/1000 strokes	: +-	3.0
Check tolerance cm3/1000s.	: +	4.5
Spreed Tolerance cm3/1000 strokes	•	2.0
Check tolerance cm3/1000s.	•	3.5
Chi37 (0003).	•	٠.٦

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 30.05.98 : ISO 4113

Combination No. : 0 400 474 161

Injection pump

Pump designation : PES4A80D420LS1345 EP type number : 0 410 484 020

Governor

Governer design. : RSV350...750A7C2183

: -1R

Governer no. : 0 420 233 195

Cust. part No. :

Customer-spec. information

Customer : LOMBARDINI

Motor

: LDA 934

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

: ← 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.0

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

: 173.5 : ← 1.5

Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-3-4-2

Phasing

: 0-90-180-270

BASIC SETTING

Del. quantity

cm3/1000 strokes : 53.0

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000S.

: +- 2.0

Spreed

Tolerance

cm3/1000 strokes :

2.5

Check tolerance

cm3/1000s.

4.0

Rated speed rpm : 350

Rack travel in mm :

Tolerance mm : \leftarrow 0.10

7.50

Del. quantity

cm3/1000 strokes : 33.0

Tolerance

cm3/1000 strokes : \leftarrow 3.0

Check tolerance

cm3/1000s.

: +- 4.5

Spreed

rack travel mm : 0.85 Tolerance mm : +- 0.55 Tolerance cm3/1000 strokes : 2.0 Check tolerance Rated speed rpm : 925 cm3/1000s. : 3.5 rack travel mm : 4.0 Rated speed rpm : 780 Tolerance 1/min : +- 15 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION LOW IDLE control lever control lever position degree : 22.0 position degree : - 3 Rated speed rpm : 800 tolerance degree : +- 4.0 Rack travel in mm : 0.50Tolerance mm : $\leftarrow 0.20$ Setting point w/out bumper spring Rated speed rpm : governor spring rack travel mm : Tolerance mm : +- 0.10 pre-tension click setting x : 3.75Rated speed rpm : 100 FULL LOAD DELIVERY AT FULL LOAD STOP CRT mm min. : > 19.50 700 Rated speed rpm : Testing: Aneroid pressure Rated speed rpm : 350 rack travel mm : 7.50 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 53.0 Tolerance rack travel mm : 2.00 Rated speed rpm : 440 cm3/1000 strokes : \leftarrow 0.5 Check tolerance cm3/1000s. : +- 2.0 Tolerance 1/min : + 30 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance : 4.0 cm3/1000s.STARTING FUEL DELIVERY CONTROL LEVER Rated speed rpm : 100 rack travel mm : 15.45 Tolerance mm : + 0.25 control lever position degree : 42.0 tolerance degree : + 4.0 Del. quantity cm3/1000 strokes : 105.0 RATED SPEED Tolerance rack travel mm : 8.20 Rated speed rpm : 745 cm3/1000 strokes : +- 5.0 Check tolerance Tolerance 1/min : +- 5 cm3/1000s. : +- 8.0 rack travel mm : Rated speed rpm : 4.00 Tolerance 1/min : +- 15

LOW IDLE

4.00

350

8.00

Rated speed rpm	:		350	
Rack travel in mm Tolerance mm Del. quantity	-	+-	7.50 0.10	
7/4000	:		33.0	
Tolerance cm3/1000 strokes	:	+-	3.0	
Check tolerance cm3/1000s.	:	+-	4.5	
Spreed Tolerance				
cm3/1000 strokes	:		2.0	
Check tolerance cm3/1000s.	:		3.5	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 30.05.98 Test oil : ISO 4113

Combination No. : 0 400 678 040

Injection pump

Pump designation : PE8A95D410LS2608 EP type number : 0 410 698 988

Governor

Governer design. : RSV300...1325A8C1002

: 0 420 232 310 Governer no.

Cust. part No. :

Customer-spec. information Customer : KHD : F8L413F Motor

Power KW : 188.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 2.05 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-8-7-2-6

: - 5- 4- 3

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1325

Rack travel in mm : 9.75 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 92.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

cm3/1000 strokes	: 3.0	CONTROL LEVER
Check tolerance		- }
cm3/1000s.	: 6.0	+ control lever
		+ position degree : 113.0
		tolerance degree : +- 4.0
Data damaged num	. 700	DATED COUCH
Rated speed rpm	: 300	+ RATED SPEED + rack travel mm : 8.70
Rack travel in mm		Rated speed rpm : 1370
Tolerance mm		Tolerance 1/min : +- 5
	. 1- 0.10	Total arite 17mm 11 . 7- 3
Del. quantity	. 13 0	T mode though my
cm3/1000 strokes	: 12.0	+ rack travel mm : 4.00
Tolerance	7.0	Rated speed rpm : 1405
cm3/1000 strokes	: +- 3.U	+ Tolerance 1/min : +- 15
Check tolerance	, , , , , , , , , , , , , , , , , , , ,	†
cm3/1000s.	: +- 5.5	rack travel mm : 1.00
Spreed		Tolerance mm : + 0.70
Tolerance		Rated speed rpm : 1575
cm3/1000 strokes	: 5.0	†
Check tolerance		†
cm3/1000s.	: 9.0	+
		+ LOW IDLE
(B) SETTING OF IN	JECTION PUMP	+
WITH GOVERNOR		+
		+ control lever
		position degree : 70.0
		tolerance degree : +- 4.0
GUIDE SLEEVE POSI	TION	1
		Setting point w/out bumper spring
		Potent amond may 100
control lever	. 7	+ Rated speed rpm : 100
position degree		T 007 10 00
Rated speed rpm	: 800	+ CRT mm min. : > 19.00
Rack travel in mm	: 0.65	Testing:
Tolerance mm	: +- 0.35	1
		Detect and and 700
		+ kateg speed rbm : 500
		Rated speed rpm : 300 rack travel mm : 6.00
FULL LOAD DELIVER	Y AT FULL LOAD STOP	rack travel mm : 6.00
FULL LOAD DELIVER	Y AT FULL LOAD STOP	
		rack travel mm : 6.00 Tolerance mm : + 0.10
Rated speed rpm		rack travel mm : 6.00 Tolerance mm : + 0.10 rack travel mm : 2.00
Rated speed rpm Aneroid pressure		rack travel mm : 6.00 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 340
Rated speed rpm Aneroid pressure hPa		rack travel mm : 6.00 Tolerance mm : + 0.10 rack travel mm : 2.00
Rated speed rpm Aneroid pressure hPa Del. quantity	: 1325 : -	rack travel mm : 6.00 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 340 Tolerance 1/min : + 30
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	: 1325 : -	rack travel mm : 6.00 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 340
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	: 1325 : - : 92.5	rack travel mm : 6.00 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 340 Tolerance 1/min : + 30 Rated speed rpm : 700
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1325 : - : 92.5	rack travel mm : 6.00 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 340 Tolerance 1/min : + 30
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 1325 : - : 92.5 : +- 1.0	rack travel mm : 6.00 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 340 Tolerance 1/min : + 30 Rated speed rpm : 700 CRT mm max. : < 1.00
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1325 : - : 92.5	rack travel mm : 6.00 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 340 Tolerance 1/min : + 30 Rated speed rpm : 700
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 1325 : - : 92.5 : +- 1.0	rack travel mm : 6.00 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 340 Tolerance 1/min : + 30 Rated speed rpm : 700 CRT mm max. : < 1.00 SET IDLE AUXILIARY SPRING
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 1325 : - : 92.5 : + 1.0 : + 3.0	rack travel mm : 6.00 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 340 Tolerance 1/min : + 30 Rated speed rpm : 700 CRT mm max. : < 1.00
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: 1325 : - : 92.5 : + 1.0 : + 3.0	rack travel mm : 6.00 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 340 Tolerance 1/min : + 30 Rated speed rpm : 700 CRT mm max. : < 1.00 SET IDLE AUXILIARY SPRING
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 1325 : - : 92.5 : + 1.0 : + 3.0 : 3.0	rack travel mm : 6.00 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 340 Tolerance 1/min : + 30 Rated speed rpm : 700 CRT mm max. : < 1.00 SET IDLE AUXILIARY SPRING Rated speed rpm : 700
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 1325 : - : 92.5 : + 1.0 : + 3.0	rack travel mm : 6.00 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 340 Tolerance 1/min : + 30 Rated speed rpm : 700 CRT mm max. : < 1.00 SET IDLE AUXILIARY SPRING Rated speed rpm : 700 TORQUE CONTROL
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 1325 : - : 92.5 : + 1.0 : + 3.0 : 3.0	rack travel mm : 6.00 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 340 Tolerance 1/min : + 30 Rated speed rpm : 700 CRT mm max. : < 1.00 SET IDLE AUXILIARY SPRING Rated speed rpm : 700 TORQUE CONTROL Rated speed rpm : 1325
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: 1325 : - : 92.5 : + 1.0 : + 3.0 : 3.0	rack travel mm : 6.00 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 340 Tolerance 1/min : + 30 Rated speed rpm : 700 CRT mm max. : < 1.00 SET IDLE AUXILIARY SPRING Rated speed rpm : 700 TORQUE CONTROL

Rated speed rpm : 500 rack travel mm : 10.05 Tolerance mm : $\leftarrow 0.05$

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 14.20
Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 122.0
Tolerance
cm3/1000 strokes : + 5.5
Check tolerance
cm3/1000s. : + 8.5

LOW IDLE

Rated speed rpm : 300 Rack travel in mm : 6.00 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 12.0 Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s. : +- 5.5 Spreed Tolerance 5.0 cm3/1000 strokes : Check tolerance 9.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 30.05.98 Test oil : ISO 4113

Combination No. : 0 400 864 092

Injection pump

Pump designation : PES4A90D320/3RS2659

EP type number : 0 410 894 028

Governor

Governer design. : RSV325...1250A5C2182

: -9R

Governer no.

: 0 420 233 287

Cust. part No. :

Customer-spec. information Customer : MWM : TD2268-4 Motor

Power KW

: 87.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

Tolerance bar : **←** 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

x Length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Firing order : 1-3-4-2

Phasing

: 0-90-180-270

Beginning of delivery differende

and maximum rack

travel 9.00 Difference ° CS : 4.00

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 11.55 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 92.0

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

: +-2.5 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes :

3.0

Check tolerance

cm3/1000s.

5.0

Rated speed rpm : 325

Rack travel in mm: 5.50

F02

Tolerance mm : += 0.10 Del. quantity cm3/1000 strokes : 11.0	rack travel mm : 10.50 Rated speed rpm : 1295 Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : +- 3.0 Check tolerance	rack travel mm : 4.00 Rated speed rpm : 1360
cm3/1000s. : +- 5.0 Spreed	Tolerance 1/min : +- 15
Tolerance cm3/1000 strokes : 2.5	rack travel mm : 0.85 Tolerance mm : +- 0.55
Check tolerance cm3/1000s. : 4.5	Rated speed rpm : 1520 rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1370 Tolerance 1/min : + 15
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 70.0 tolerance degree : + 4.0
Rack travel in mm : 0.50 Tolerance mm : +- 0.20	Setting point w/out bumper spring
governor spring pre-tension click setting x : 4.50	+ Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : + 0.10
	Rated speed rpm : 100
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min. : > 19.50
Rated speed rpm : 1250 Aneroid pressure	Testing:
hPa : 700 Del. quantity	+ Rated speed rpm : 325 + rack travel mm : 5.50 + Tolerance mm : + 0.10
cm3/1000 strokes : 92.0 Tolerance cm3/1000 strokes : +- 0.5	+
Check tolerance cm3/1000s. : + 2.5	rack travel mm : 2.00 Rated speed rpm : 475 Tolerance 1/min : + 30
Spreed Tolerance	
cm3/1000 strokes : 3.0 Check tolerance cm3/1000S. : 5.0	TORQUE CONTROL Rated speed rpm : 1250
cm3/1000s. : 3.0	rack travel mm : 11.55 Tolerance mm : + 0.05
CONTROL LEVER	Rated speed rpm : 500 rack travel mm : 12.55 Tolerance mm : + 0.05
control lever position degree : 107.0 tolerance degree : +- 4.0	Rated speed rpm : 920 rack travel mm : 12.00 Tolerance mm : + 0.10
RATED SPEED	+

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	500
Pressure hPa	:	700
rack travel mm	:	12.55
Tolerance mm	: +	- 0.05

Rated speed rpm	:	500
Pressure hPa	:	-
rack travel mm	:	10.45
Tolerance mm	: +	- 0.05

MEASUREMENT

Rated	speed	rpm	:	500

Pressure hPa	:		90
rack travel mm	:		11.10
Tolerance mm	:	+	0.10

Pressure hPa	:	185
rack travel mm	:	11.65
Tolerance mm	: +	- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa	:		700
Rated speed rpm	:		700
Del. quantity			
cm3/1000 strokes	:		99.5
Tolerance			
cm3/1000 strokes Check tolerance	:	+	1.0
cm3/1000s.	:	+-	3.5

rack travel mm	:	12.00
Tolerance mm	: +-	0.10

		405
:		185
:		500
:		80.0
:	+-	1.0
:	+-	3.5
	:	•

Aneroid pressure			
hPa	:		_
Rated speed rpm	:		500
Del. quantity			
cm3/1000 strokes	:		62.0
Tolerance			
cm3/1000 strokes	:	+	1.0
Check tolerance			
cm3/1000S.	:	+-	3.0

STARTING FUEL DELIVERY

Rated speed rpm	:		100
rack travel mm	:		20.25
Tolerance mm	:	+	0.75
Del. quantity			
cm3/1000 strokes	:		137.0
Tolerance			
cm3/1000 strokes	:	+	5.0
Check tolerance			
cm3/1000s.	:	+-	8.0

LOW IDLE

Rated speed rpm	:		325
Rack travel in mm Tolerance mm	•	+	5.50 0.10
Del. quantity	•	•	
cm3/1000 strokes Tolerance	:		11.0
cm3/1000 strokes Check tolerance	:	+-	3.0
cm3/1000s.	:	+-	5.0
Spreed Tolerance			
cm3/1000 strokes Check tolerance	:		2.5
cm3/1000s.	:		4.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 30.05.98 : ISO 4113

Combination No. : 0 400 864 093

Injection pump

Pump designation : PES4A90D320/3RS2659 EP type number : 0 410 894 028

Governor

Governer design. : RSV325...1250A5C505

: -4R

Governer no. : 0 420 233 288

Cust. part No. :

Customer-spec. information

Customer

: MWM

Motor

: D226-B4

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

bar : 173.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-3-4-2

: 0-90-180-270 Phasing

Beginning of delivery differende

and maximum rack

9.00 travel Difference ° CS : 4.00

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 12.05 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 90.5

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

2.5 cm3/1000s. : +--

Spreed

Tolerance

cm3/1000 strokes :

3.0

Check tolerance

cm3/1000s.

5.0

Rated speed rpm : 325	tolerance degree : +- 4.0
Rack travel in mm: 6.80	RATED SPEED
Tolerance mm : + 0.10 +	rack travel mm : 11.00
Del. quantity	Rated speed rpm : 1295
cm3/1000 strokes : 11.0 +	Tolerance 1/min : +- 5
Tolerance	
cm3/1000 strokes : + 3.0 +	rack travel mm : 4.00
Check tolerance +	Rated speed rpm : 1355
cm3/1000S. : +- 5.0 +	Tolerance 1/min : +- 15
Spreed	
Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 2.5	Tolerance mm : +- 0.55
Check tolerance + cm3/1000s. : 4.5	Rated speed rpm : 1520
cm3/1000s. : 4.5	rack travel mm : 4.00
Ī	Rated speed rpm : 1375
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : +- 15
WITH GOVERNOR	Total diffe 17 milit 15
42117 GOVENNON	
1	
+	
GUIDE SLEEVE POSITION +	LOW IDLE
+	
+	
control lever	control lever
position degree : -3	position degree : 74.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm: 0.50	Satting point worth human chains
Tolerance mm : +- 0.20	Setting point w/out bumper spring
Totel ance min	Rated speed rpm : 325
governor spring	rack travel mm : 7.30
pre-tension +	Tolerance mm : + 0.10
click setting x : 4.50	
+	Rated speed rpm : 100
	•
FULL LOAD DELIVERY AT FULL LOAD STOP +	CRT mm min. : > 19.50
+	
Rated speed rpm : 1250 +	Testing:
Aneroid pressure	725
hPa : -	Rated speed rpm : 325 rack travel mm : 6.80
Del. quantity + cm3/1000 strokes : 90.5 +	rack travel mm : 6.80 Tolerance mm : +- 0.10
cm3/1000 strokes : 90.5 + Tolerance +	toterance min . + 0.10
cm3/1000 strokes : + 0.5	rack travel mm : 2.00
Check tolerance	Rated speed rpm : 470
cm3/1000s. : + 2.5	Tolerance 1/min : + 30
Spreed	
Tolerance +	
cm3/1000 strokes : 3.0	TORQUE CONTROL
Check tolerance	Rated speed rpm : 1250
cm3/1000s. : 5.0	rack travel mm : 12.05
+	Tolerance mm : \leftarrow 0.05
+	2.1.1
CONTROL LEVED	Rated speed rpm : 500
CONTROL LEVER	rack travel mm : 12.10
control lever	Tolerance mm : +- 0.10
100.0	
position degree : 109.0 +	

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : + 0.75 Del. quantity cm3/1000 strokes : 135.0 Tolerance cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0

LOW IDLE

325 Rated speed rpm : 6.80 Rack travel in mm: Tolerance mm : + 0.10 Del. quantity 11.0 cm3/1000 strokes : Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance 4.5 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 26.03.98 : ISO 4113

Combination No. : 0 400 864 109

Injection pump

Pump designation : PES4A95D410/3RS2789

EP type number : 0 410 894 995

Governor

Governer design. : RSV325...1250A5C917L

Governer no. : 0 420 232 639

Cust. part No. : 0423 2332 KY

Customer-spec. information

Customer : KHD-DMI

Motor

: F4L912/913

Power KW

: 59.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

: ← z.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.00 Toterance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.35

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

cm3/1000 strokes : 3.5 Check tolerance	Check tolerance cm3/1000s. : 8.0
cm3/1000s. : 8.0	
	CONTROL LEVER
	control lever
Rated speed rpm : 325	position degree : 107.0 tolerance degree : +- 4.0
Rack travel in mm: 8.50	
Tolerance mm : + 0.10	RATED SPEED rack travel mm : 10.35
Del. quantity + cm3/1000 strokes : 11.5 +	rack travel mm : 10.35 Rated speed rpm : 1295
Tolerance	Tolerance 1/min : +- 5
cm3/1000 strokes : +- 2.0	
Check tolerance	rack travel mm : 4.00
cm3/1000s. : +- 4.5	Rated speed rpm : 1355
Spreed +	Tolerance 1/min : +- 15
cm3/1000 strokes : 5.5	rack travel mm : 0.85
Check tolerance	Tolerance mm : +- 0.55
cm3/1000s. : 9.0	Rated speed rpm : 1530
+	4.00
(B) SETTING OF INJECTION PUMP	rack travel mm : 4.00 Rated speed rpm : 1380
WITH GOVERNOR	Rated speed rpm : 1380 Tolerance 1/min : +- 15
WITH GOVERNOON	roter and mann
+	
GUIDE SLEEVE POSITION	LOW IDLE
†	LOW TOLE
+	
control lever	
position degree : FREE	control lever
	position degree : 74.0
position degree : FREE Rated speed rpm : 800	
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50	position degree : 74.0 tolerance degree : +- 4.0
position degree : FREE Rated speed rpm : 800	position degree : 74.0
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50	position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25	position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250	position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack trayel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure	position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : =	position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing:
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : = Del. quantity	position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0	position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing:
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : = Del. quantity	position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10 rack travel mm : 2.00
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : = Del. quantity cm3/1000 strokes : 76.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0	position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 510
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : = Del. quantity cm3/1000 strokes : 76.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed	position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10 rack travel mm : 2.00
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : = Del. quantity cm3/1000 strokes : 76.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0	position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 510

Rated speed rpm : 1250 rack travel mm : 11.35 Tolerance mm : +-- 0.05

Rated speed rpm : 500

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 17.00 : **←** 0.75 Tolerance mm Del. quantity

cm3/1000 strokes : 90.0

Tolerance

cm3/1000 strokes : \leftarrow 7.5

Check tolerance

cm3/1000s. : ← 10.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm: 8.50 Tolerance mm : \leftarrow 0.10

Del. quantity

cm3/1000 strokes : 11.5

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.5

Spreed

Tolerance

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000s. 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 30.05.98 : ISO 4113

Combination No. : 0 400 876 293

Injection pump

Pump designation : PES6A90D410RS2596 EP type number : 0 410 896 073

Governor

Governer design. : RSV350...1400A0C1141

Governer no. : 0 420 232 423

Cust. part No. :

Customer-spec. information Customer : MB-NFZ : 0M352A Motor Power KW : 123.0

TEST BENCH REQUIREMENTS

Inlet line : 1.2

Test oil inlet

temp. °C Temp. 10 : 40 : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.05 Tolerance mm : ← 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 11.95 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 74.5

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance : +- 2.5

cm3/1000S.

	+ Check tolerance
Spreed	cm3/1000s. : 4.5
Tolerance cm3/1000 strokes : 3.0	
	CONTROL LEVER
Check tolerance cm3/1000s. : 4.5	control lever position degree : 112.0 tolerance degree : + 4.0
Rated speed rpm : 350	1
Del. quantity cm3/1000 strokes : 11.0	ASSEMBLY GOVERNOR SETTING
Tolerance	Rated speed rpm : 1435
cm3/1000 strokes : +- 1.0 Check tolerance	rack travel mm : 10.90
cm3/1000s. : +- 3.0 Spreed	+ Rated speed rpm : 1479 + Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : 2.5	rack travel mm : 4.00
Check tolerance cm3/1000s. : 4.5	rack travel mm : 0.85
Cili37 (0003 4.3	Rated speed rpm : 1680
(B) SETTING OF INJECTION PUMP	Ť
WITH GOVERNOR	+ Rated speed rpm : 1436 + rack travel mm : 10.90
CUANT OF THE PROTECTION	Rated speed rpm : 1480
GUIDE SLEEVE POSITION	+ Tolerance 1/min : +- 5 + rack travel mm : 4.00
control lever position degree : - 3	rack travel mm : 0.85 Tolerance mm : +- 0.55
Rated speed rpm : 800	‡
Rack travel in mm : 0.50 Tolerance mm : +- 0.20	Rated speed rpm : 1437 rack travel mm : 10.90
governor spring	Rated speed rpm : 1481
pre-tension click setting x : 4.00	Tolerance 1/min : +- 5 rack travel mm : 4.00
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 0.85 Tolerance mm : +- 0.55
Rated speed rpm : 1400	‡
Aneroid pressure hPa : 700	Rated speed rpm : 1438 rack travel mm : 10.90
Del. quantity cm3/1000 strokes : 74.5 Tolerance	Rated speed rpm : 1482 Tolerance 1/min : +- 5
cm3/1000 strokes : +- 0.5 Check tolerance	rack travel mm : 4.00
cm3/1000s. : +- 2.5 Spreed	rack travel mm : 0.85 Tolerance mm : +- 0.55
Tolerance cm3/1000 strokes : 3.0	Rated speed rpm : 1439

rack travel mm : 10.90	†
Rated speed rpm : 1483 Tolerance 1/min : +- 5 rack travel mm : 4.00	ANEROID/ALTITUDE COMPENSATOR TEST
rack travel mm : 0.85 Tolerance mm : + 0.55	SETTING
Rated speed rpm : 1440 rack travel mm : 10.90	Rated speed rpm : 500 Pressure hPa : 700 rack travel mm : 13.15 Tolerance mm : + 0.05
Rated speed rpm : 1484 Tolerance 1/min : +- 5 rack travel mm : 4.00	Rated speed rpm : 500 Pressure hPa : - rack travel mm : 11.40
rack travel mm : 0.85 Tolerance mm : +- 0.55	MEASUREMENT
	Rated speed rpm : 500
LOW IDLE - Setting point w/out bumper spring -	Pressure hPa : 340 rack travel mm : 11.70 Tolerance mm : + 0.10
Rated speed rpm : 350 - rack travel mm : 1.00 - Tolerance mm : + 0.20 -	Pressure hPa : 500 rack travel mm : 12.65 Tolerance mm : + 0.05
Rated speed rpm : 100	
CRT mm min. : > 16.00	FUEL DELIVERY CHARACTERISTICS
•	Aneroid pressure hPa : 700 Rated speed rpm : 900 Del. quantity cm3/1000 strokes : 76.5
CRT mm min. : > 16.00 - Testing: rack travel mm : 2.00 - Rated speed rpm : 500 -	Aneroid pressure hPa : 700 Rated speed rpm : 900 Del. quantity
CRT mm min. : > 16.00 Testing: rack travel mm : 2.00 Rated speed rpm : 500 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1400 rack travel mm : 11.95	Aneroid pressure hPa : 700 Rated speed rpm : 900 Del. quantity cm3/1000 strokes : 76.5 Tolerance cm3/1000 strokes : + 1.5 Check tolerance
CRT mm min. : > 16.00 Testing: rack travel mm : 2.00 Rated speed rpm : 500 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1400 rack travel mm : 11.95 Tolerance mm : + 0.05 Rated speed rpm : 900	Aneroid pressure hPa : 700 Rated speed rpm : 900 Del. quantity cm3/1000 strokes : 76.5 Tolerance cm3/1000 strokes : +- 1.5 Check tolerance cm3/1000s. : +- 4.0 rack travel mm : 12.80 Tolerance mm : +- 0.10 Aneroid pressure hPa : Rated speed rpm : 500
CRT mm min. : > 16.00 Testing: rack travel mm : 2.00 Rated speed rpm : 500 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1400 rack travel mm : 11.95 Tolerance mm : + 0.05 Rated speed rpm : 900 rack travel mm : 13.05 Tolerance mm : + 0.05	Aneroid pressure hPa : 700 Rated speed rpm : 900 Del. quantity cm3/1000 strokes : 76.5 Tolerance cm3/1000 strokes : +- 1.5 Check tolerance cm3/1000s. : +- 4.0 rack travel mm : 12.80 Tolerance mm : +- 0.10 Aneroid pressure hPa :

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 16.30
Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 83.0
Tolerance
cm3/1000 strokes : + 5.0
Check tolerance
cm3/1000s. : + 8.0

LOW IDLE

350 Rated speed rpm : Del. quantity cm3/1000 strokes : 11.0 Tolerance 1.0 cm3/1000 strokes : +-Check tolerance cm3/1000s. 3.0 : +-Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance 4.5 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : ISO 4113

: 28.05.98

Combination No. : 0 400 876 404

Injection pump

Pump designation : PES6A95D410RS2835 EP type number : 0 410 896 896

Governor

Governer design. : RSV650...1050A8C2263

Governer no. : 0 420 232 583

Cust. part No. : 87 801 602

Customer-spec. information

Customer : FNH-GEOTECH

Motor

: 7.5 L

Power KW

: 149.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C

40

Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

F15

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

Prestroke mm

Tolerance mm

: 2.60 : +- 0.05

Check

: **←** 0.10 tolerance mm

Rack travel in mm : 10.50

Tolerance mm : + 1.50

Firing order

: 1-5-3-6-2-

: 4

Phasing

: 0-60-120-180-240

: -300

Tolerance

: +- 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 14.50

Tolerance mm : \leftarrow 0.10

Del. quantity

cm3/1000 strokes : 151.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: +- 3.0

Spreed -	Tolerance : 3.5
Tolerance cm3/1000 strokes : 3.5	Check tolerance cm3/1000s. : 8.0
Check tolerance cm3/1000s. : 8.0 -	- CONTROL LEVER
Rated speed rpm : 650	- control lever - position degree : 92.0 - tolerance degree : +- 4.0
Rack travel in mm: 5.40 - Tolerance mm: + 0.10 -	
Del. quantity	ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : 23.5	- Rated speed rpm : 1087
Tolerance cm3/1000 strokes : +- 2.0	- Rated speed rpm : 1087 - rack travel mm : 12.10
Check tolerance - cm3/1000s. : +- 4.5 -	- - Rated speed rpm : 1117
Spreed - 4.9	- Tolerance 1/min : + 5
Tolerance - cm3/1000 strokes : 5.5 -	- rack travel mm : 4.00
Check tolerance	- rack travel mm : 0.85
cm3/1000s. : 9.0 -	- Tolerance mm : + 0.55
	- Rated speed rpm : 1225 -
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	- Rated speed rpm : 1088 - rack travel mm : 12.10
GUIDE SLEEVE POSITION	- Rated speed rpm : 1118 - Tolerance 1/min : +- 5 - rack travel mm : 4.00
control lever position degree : - 3 Rated speed rpm : 800	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1225
Rack travel in mm: 0.50 Tolerance mm: + 0.20	Rated speed rpm : 1089 rack travel mm : 12.10
governor spring	- - Rated speed rpm : 1119
click setting x : 2.25	Tolerance 1/min : + 5 rack travel mm : 4.00
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 0.85
Rated speed rpm : 750	Tolerance mm : + 0.55 Rated speed rpm : 1225
Aneroid pressure	•
hPa : 1200 + Del. quantity +	Rated speed rpm : 1090
cm3/1000 strokes : 151.5	rack travel mm : 12.10
cm3/1000 strokes : + 1.0	Rated speed rpm : 1120
Check tolerance cm3/1000S. : +- 3.0 +-	Tolerance 1/min : +- 5 rack travel mm : 4.00
Spreed	rack travel mm : 0.85

Tolerance mm : +- 0.55 Rated speed rpm : 1225	Rated speed rpm : 1050 rack travel mm : 12.80 Tolerance mm : + 0.10
Rated speed rpm : 1091 rack travel mm : 12.10	Rated speed rpm : 1050 rack travel mm : 13.10
Rated speed rpm : 1121 Tolerance 1/min : +- 5 rack travel mm : 4.00	Tolerance mm : + 0.10 Rated speed rpm : 975 rack travel mm : 13.65
rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1225	rack travel mm : 13.65 Tolerance mm : + 0.15
Rated speed rpm : 1092 rack travel mm : 12.10	ANEROID/ALTITUDE COMPENSATOR TEST
Rated speed rpm : 1122	SETTING
Tolerance 1/min : + 5 rack travel mm : 4.00	Rated speed rpm : 500 Pressure hPa : 1200 rack travel mm : 14.50
rack travel mm : 0.85 Tolerance mm : +- 0.55	+ Tolerance mm : +- 0.10
Rated speed rpm : 1225	Rated speed rpm : 500 Pressure hPa : - rack travel mm : 9.10
LOW IDLE	Tolerance mm : + 0.10
control lever	MEASUREMENT +
position degree : 74.0 tolerance degree : + 4.0	Rated speed rpm : 500
Setting point w/out bumper spring	Pressure hPa : 325 rack travel mm : 10.70 Tolerance mm : + 0.20
Rated speed rpm : 650	+
rack travel mm : 4.90 Tolerance mm : + 0.10	+ Pressure hPa : 550 + rack travel mm : 13.55
Rated speed rpm : 100	Tolerance mm : + 0.05
CRT mm min. : > 19.50	FUEL DELIVERY CHARACTERISTICS
Testing:	<u></u>
Rated speed rpm : 650 rack travel mm : 5.40 Tolerance mm : +- 0.10	Aneroid pressure hPa : - Rated speed rpm : 500
rack travel mm : 2.00 Rated speed rpm : 700	Del. quantitycm3/1000 strokes : 77.0Tolerance
Tolerance 1/min : +- 30	- cm3/1000 strokes : + 2.0 - Check tolerance - cm3/1000s. : + 4.5
TORQUE CONTROL Rated speed rpm : 750 rack travel mm : 14.50 Tolerance mm : +- 0.10	STARTING FUEL DELIVERY
TOTAL MAIN TOTAL	1 31/11/12/10 1024 024742///

Rated speed rpm	:		100
rack travel mm	:		20.25
Tolerance mm	:	+	0.75
Del. quantity			
cm3/1000 strokes	:		200.0
Tolerance			
cm3/1000 strokes	:	+-	10.0
Check tolerance			
cm3/1000s.	:	+-	13.0

LOW IDLE

Rated speed rpm	:		650
Rack travel in mm Tolerance mm Del. quantity	:	+-	5.40 0.10
cm3/1000 strokes	:		23.5
Tolerance cm3/1000 strokes	:	+-	2.0
Check tolerance cm3/1000s.	:	+-	4.5
Spreed Tolerance			
cm3/1000 strokes	:		5.5
Check tolerance cm3/1000s.	:		9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 01.06.98 Test oil : ISO 4113

Combination No. : 0 400 876 407

Injection pump

Pump designation : PES6A95D41ORS2835 EP type number : 0 410 896 896

Governor

Governer design. : RSV650...1050A8C2263

: -3L

Governer no.

: 0 420 232 586

Cust. part No. : 87 801 606

Customer-spec. information

Customer : NH Motor

: 7.5 L

Power KW

: 138.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar

: +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

F19

x inside diameter :

x length mm : 600

2.0

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

Prestroke mm

Tolerance mm

: 2.60 : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -300

: + 0.50 Tolerance

Check

tolerance $^{\circ}NW$: +- 0.75

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 14.00

Tolerance mm : +- 0.10

Del. quantity

cm3/1000 strokes : 141.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance cm3/1000s. : +- 3.0	+ Check tolerance + cm3/1000s. : +- 3.0 + Spreed
Spreed	Tolerance cm3/1000 strokes : 3.5
Tolerance cm3/1000 strokes : 3.5	Check tolerance cm3/1000s. : 6.0
Check tolerance cm3/1000s. : 6.0	
	+ CONTROL LEVER
Rated speed rpm : 650	control lever position degree : 91.0 tolerance degree : + 4.0
Rack travel in mm: 5.50	+
Tolerance mm : + 0.10 Del. quantity	ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : 22.0 Tolerance	+ Rated speed rpm : 1092
cm3/1000 strokes : + 2.0 Check tolerance	rack travel mm : 11.80
cm3/1000s. : + 3.5	Rated speed rpm : 1122
Spr ee d	+ Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : 3.5	rack travel mm : 4.00
Check tolerance	rack travel mm : 0.85
cm3/1000s. : 5.5	+ Tolerance mm : + 0.55
	Rated speed rpm : 1250
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	+ Rated speed rpm : 1093 + rack travel mm : 11.80
	Rated speed rpm : 1123
GUIDE SLEEVE POSITION	+ Tolerance 1/min : + 5
	+ rack travel mm : 4.00
control lever	rack travel mm : 0.85
position degree : - 3	+ Tolerance mm : +- 0.55 + Rated speed rpm : 1250
Rated speed rpm : 800	+ Rated speed rpm : 1250
Rack travel in mm: 0.50	t Batatanadana (1904
Tolerance mm : +- 0.20	Rated speed rpm : 1094 rack travel mm : 11.80
governor spring	+
<pre>pre-tension click setting x : 2.50</pre>	+ Rated speed rpm : 1124
click setting $x : 2.50$	Tolerance 1/min : + 5 + rack travel mm : 4.00
	+
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1250
Rated speed rpm : 750	Rated speed rom : 1250
Aneroid pressure	+
hPa : 800	Posted aread are 1005
Del. quantity cm3/1000 strokes : 141.0	Rated speed rpm : 1095 rack travel mm : 11.80
Tolerance	+
cm3/1000 strokes : +- 1.0	Rated speed rpm : 1125 Tolerance 1/min : +- 5

rack travel mm : 4.00 rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1250	Rated speed rpm : 1050 rack travel mr : 12.50 Tolerance mm : + 0.10 Rated speed rpm : 1050 rack travel mm : 12.80
Rated speed rpm : 1096 rack travel mm : 11.80 Rated speed rpm : 1126 Tolerance 1/min : + 5	Tolerance mm : + 0.10 Rated speed rpm : 960 rack travel mm : 13.60 Tolerance mm : + 0.15
rack travel mm : 4.00 rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1250	ANEROID/ALTITUDE COMPENSATOR TEST SETTING
Rated speed rpm : 1097 rack travel mm : 11.80 Rated speed rpm : 1127 Tolerance 1/min : +- 5	Rated speed rpm : 500 Pressure hPa : 800 rack travel mm : 14.00 Tolerance mm : + 0.10
rack travel mm : 4.00 rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1250	Rated speed rpm : 500 Pressure hPa : - rack travel mm : 9.00 Tolerance mm : + 0.10 MEASUREMENT
LOW IDLE	Rated speed rpm : 500
control lever position degree : 73.0 tolerance degree : +- 4.0	Pressure hPa : 325 rack travel mm : 11.15 Tolerance mm : + 0.20 Pressure hPa : 550
Setting point w/out bumper spring	+ rack travel mm : 13.45 + Tolerance mm : + 0.05
Rated speed rpm : 650 rack travel mm : 5.00 Tolerance mm : + 0.10	
Testing:	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : 650 rack travel mm : 5.50 Tolerance mm : + 0.10	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity
rack travel mm : 2.00 Rated speed rpm : 780 Tolerance 1/min : +- 30	cm3/1000 strokes : 77.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance
TORQUE CONTROL Rated speed rpm : 750 rack travel mm : 14.00 Tolerance mm : + 0.10	cm3/1000S. : +- 4.5 STARTING FUEL DELIVERY

:		100
:		20.00
:	+-	0.20
:		197.0
:	+-	10.0
:	+-	13.0
	:	

LOW IDLE

Rated speed rpm	:		650
TO COT CALLOC TIME	-	+-	5.50 0.10
Del. quantity cm3/1000 strokes Tolerance	:		22.0
cm3/1000 strokes Check tolerance	:	+-	2.0
cm3/1000s. Spreed	:	+	3.5
Tolerance cm3/1000 strokes Check tolerance	:		3.5
cm3/1000s.	:		5.5

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.05.98 Test oil : ISO 4113

Combination No. : 0 400 876 421

Injection pump

Pump designation : PES6A95D32ORS2848 EP type number : 0 410 896 892

Governor

Governer design. : RSV500...1100A5C2269

: R

Governer no. : 0 420 233 338

Cust. part No. :

Customer—spec. information Customer : VALMET Motor : 634 DS Power KW : 140.0

TEST BENCH REQUIREMENTS

Inlet line : 2.3

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.55
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance °NW : + 0.75

Beginning of delivery differende

and maximum rack

travel : 10.50
Tolerance mm : + 1.50
Difference ° CS : 5.00

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.05 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 133.0

F23

Tolerance cm3/1000 strokes : + 1.0	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Check tolerance cm3/1000s. : +- 3.0	- cm3/1000S. ; + 3.0 - Spreed - Tolerance
Spreed	cm3/1000 strokes : 3.5 Check tolerance
Tolerance cm3/1000 strokes : 3.5	- cm3/1000S. : 8.0
Check tolerance cm3/1000s. : 8.0	CONTROL LEVER
Rated speed rpm : 500	control lever position degree : 99.0 tolerance degree : + 4.0
Rack travel in mm : 4.30 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 21.0	RATED SPEED rack travel mm : 13.00 Rated speed rpm : 1145 Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 4.5 Spreed	rack travel mm : 4.00 Rated speed rpm : 1225 Tolerance 1/min : + 15
Tolerance cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. : 9.0	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1300
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION	control lever position degree : 74.0 tolerance degree : + 4.0
control lever + position degree : - 3	Setting point w/out bumper spring
Rated speed rpm : 800	Rated speed rpm : 100
Rack travel in mm : 0.50 + Tolerance mm : + 0.20 +	CRT mm min. : > 19.50
governor spring +	Testing:
pre-tension click setting x : 3.75	Rated speed rpm : 500 rack travel mm : 4.30 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 2.00 Rated speed rpm : 530
Rated speed rpm : 1100 Aneroid pressure	Tolerance 1/min : +- 30
hPa : - + Del. quantity +	SET IDLE AUXILIARY SPRING
cm3/1000 strokes : 133.0 +	rack travel mm : 2.00

TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 14.05	
Tolerance mm : + 0.05	
Rated speed rpm : 700 rack travel mm : 14.60 Tolerance mm : + 0.10	
Rated speed rpm : 975 rack travel mm : 14.30 Tolerance mm : + 0.10	
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm : 500 Pressure hPa : 900 rack travel mm : 14.60 Tolerance mm : + 0.10	
Rated speed rpm : 500 Pressure hPa : - rack travel mm : 12.80 Tolerance mm : + 0.05	
MEASUREMENT	
Rated speed rpm : 500	
Pressure hPa : 550 rack travel mm : 13.20 Tolerance mm : + 0.10	
Pressure hPa : 655 rack travel mm : 13.90 Tolerance mm : + 0.05	
FUEL DELIVERY CHARACTERISTICS	
Aneroid pressure hPa : - Pated speed row : 700	
hPa : - Rated speed rpm : 700 Del. quantity	
hPa : - Rated speed rpm : 700	

rack travel mm Tolerance mm	: 14.30 : + 0.10
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 103.0 : + 1.0 : + 3.0
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
LOW IDLE	
Rated speed rpm	: 500
Rack travel in mm Tolerance mm Del. quantity	: 4.30 : +- 0.10
cm3/1000 strokes Tolerance	: 21.0
cm3/1000 strokes Check tolerance	: +- 3.0
cm3/1000s. Spreed	: +- 4.5
Tolerance cm3/1000 strokes	: 5.5
Check tolerance cm3/1600s.	: 9.0
End of test speci-	fication sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 03.06.98 : ISO 4113

Combination No. : 0 400 876 435

Injection pump

Pump designation : PES6A95D41ORS2864 EP type number : 0 410 896 888

Governor

Governer design. : RSV400...1050A8C2263

: -12L

: 0 420 232 636 Governer no.

Cust. part No. : 87 801 605

Customer-spec. information : NH Customer : 7.5 L Motor Power KW : 185.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 2.60 : +- 0.05 2.60 Tolerance mm Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 : + 1.50 Tolerance mm

: 1-5-3-6-2-Firing order

Phasing : 0--60-120-180-240

: -300

: **←** 0.50 Tolerance

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 800

Rack travel in mm : 13.45 Tolerance mm : \leftarrow 0.10

Del. quantity cm3/1000 strokes : 139.5

Tolerance cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

	+ Tolerance
Spreed	cm3/1000 strokes : 3.5 Check tolerance
Tolerance cm3/1000 strokes : 3.5	cm3/1000s. : 8.0
Check tolerance	<u> </u>
cm3/1000s. : 8.0	CONTROL LEVER
	control lever
Rated speed rpm : 650	position degree : 94.0 tolerance degree : + 4.0
Rack travel in mm : 4.90	+
Tolerance mm : + 0.10 Del. quantity	ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : 20.0	Rated speed rpm : 1058
Tolerance cm3/1000 strokes : + 2.0	rack travel mm : 11.10
Check tolerance	Rated speed rpm : 1091
cm3/1000s. : +- 4.5 Spreed	+ Tolerance 1/min : +- 5 + rack travel mm : 4.00
Tolerance	+
cm3/1000 strokes : 5.5 Check tolerance	+ rack travel mm : 0.85 + Tolerance mm : + 0.55
cm3/1000s. : 9.0	+ Rated speed rpm : 1250
	†
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1059 rack travel mm : 11.10
WITH GOVERNOR	rack travel mm : 11.10
	+ Rated speed rpm : 1092
	+ Tolerance 1/min : +- 5
GUIDE SLEEVE POSITION	rack travel mm : 4.00
	rack travel mm : 0.85
control lever position degree : - 3	Tolerance mm : + 0.55 Rated speed rpm : 1250
Rated speed rpm : 800	+ Nated Speed (pin) . 1250
Rack travel in mm : 0.50	+ Rated speed rpm : 1060
Rack travel in mm : 0.50 Tolerance mm : +- 0.20	+ rack travel mm : 11.10
cavenas enrica	+ Rated speed rpm : 1093
governor spring pre-tension	+ Rated speed rpm : 1093 + Tolerance 1/min : +- 5
click setting $x : 3.50$	rack travel mm : 4.00
	rack travel mm : 0.85
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.55
Rated speed rpm : 800	Rated speed rpm : 1250
Aneroid pressure	+
hPa : 1200 Del. quantity	+ Rated speed rpm : 1061 + rack travel mm : 11.10
cm3/1000 strokes : 139.5	+
Tolerance cm3/1000 strokes : +- 1.0	+ Rated speed rpm : 1094 + Tolerance 1/min : +- 5
Check tolerance	
	+ rack travel mm : 4.00
cm3/1000s. : + 3.0 Spreed	+ rack travel mm : 4.00 + rack travel mm : 0.85

Tolerance mm Rated speed rpm	: ← 0.55 : 1250	rack travel mm : 12.10 Tolerance mm : + 0.10
Rated speed rpm rack travel mm	: 1062 : 11.10	ANEROID/ALTITUDE COMPENSATOR TEST
Rated speed rpm Tolerance 1/min rack travel mm	: +- 5	SETTING
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 1250	Rated speed rpm : 500 Pressure hPa : 1200 rack travel mm : 13.50 Tolerance mm : + 0.10
Rated speed rpm rack travel mm		Rated speed rpm : 500 Pressure hPa : - rack travel mm : 9.50 Tolerance mm : + 0.05
Rated speed rpm Tolerance 1/min rack travel mm	: +- 5	MEASUREMENT
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 1250	Rated speed rpm : 500 Pressure hPa : 750 rack travel mm : 12.50 Tolerance mm : + 0.05
LOW IDLE control lever position degree	: 75.0	Pressure hPa : 550 - rack travel mm : 10.80 - Tolerance mm : +- 0.20
tolerance degree Testing:	: +- 4.0	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm rack travel mm Tolerance mm	: 650 : 4.90 : +- 0.10	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity
rack travel mm	: 4.90 : + 0.10 : 2.00 : 740	hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 89.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min TORQUE CONTROL Rated speed rpm rack travel mm	: 4.90 : + 0.10 : 2.00 : 740 : + 30 : 800 : 13.45	hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 89.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm	: 4.90 : + 0.10 : 2.00 : 740 : + 30 : 800 : 13.45 : + 0.10 : 500 : 13.50	hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 89.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 4.90 : + 0.10 : 2.00 : 740 : + 30 : 800 : 13.45 : + 0.10 : 500 : 13.50 : + 0.10 : 1025	hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 89.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.25

LOW IDLE

Rated speed rpm	:	650
Rack travel in mm Tolerance mm Del. quantity	: +-	4.90 0.10
cm3/1000 strokes	:	20.0
cm3/1000 strokes Check tolerance	: +-	2.0
cm3/1000S.	: +-	4.5
Spreed Tolerance		5 5
cm3/1000 strokes Check tolerance	:	5.5
cm3/1000s.	:	9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 28.05.98 Test oil : ISO 4113

Combination No. : F 002 A0Z 048

Injection pump

Pump designation : PES6A95D320/3RS2916

EP type number : F 002 A10 010

Governor

Governer design. : RSV425...950A0C927R

Governer no. : F 002 A20 235

Cust. part No. : 3283916

Customer-spec. information

Customer : CUMMINS : 6BTA-160/1900 Motor

Power KW : 119.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

: 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85 Tolerance mm : + 0.05 Check tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance "NW : +- 0.75

Start of delivery blocking

"NW after s.o.d. : 7.50 : **←** 0.10 Tolerance

Check

tolerance °NW : +- 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : 13.30

Tolerance mm : +- 0.05	+ Rated speed rpm : 950 + Aneroid pressure
Del. quantity cm3/1000 strokes : 119.4	hPa : 850 Del. quantity
Charlones . 117.4	cm3/1000 strokes : 119.4
Tolerance cm3/1000 strokes : + 1.0	+ Tolerance + cm3/1000 strokes : + 1.0
	+ Check tolerance
Check tolerance cm3/1000s. : +- 3.0	+ cm3/1000s. : + 3.0 + Spreed
Spreed	+ Tolerance + cm3/1000 strokes : 4.0 + Check tolerance
Tolerance	cm3/1000s. : 6.5
cm3/1000 strokes : 4.0	
Check tolerance	
cm3/1000s. : 6.5	+ CONTROL LEVER
	control lever
	position degree : 82.0
Rated speed rpm : 425	tolerance degree : +- 4.0
Rack travel in mm : 6.00	+ RATED SPEED
Tolerance mm : + 0.10	rack travel mm : 12.30
Del. quantity	+ Rated speed rpm : 1000
cm3/1000 strokes : 23.5	+ Tolerance 1/min : + 5
Tolerance	+
cm3/1000 strokes : + 2.0	+ rack travel mm : 4.00
Check tolerance	+ Rated speed rpm : 1025
cm3/1000s. : +- 4.5	+ Tolerance 1/min : +- 5
Spreed	1
Tolerance	+ rack travel mm : 0.85
cm3/1000 strokes : 6.0	+ Tolerance mm : + 0.55
Check tolerance cm3/1000s. : 8.0	+ Rated speed rpm : 1200
cm3/1000s. : 8.0	Track travel mm : 4.00
	Rated speed rpm : 1050
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolorance 1/min : + 15
GUIDE SLEEVE POSITION	LOW IDLE
	+
control lever	- control lever
position degree : FREE	position degree : 65.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm : 0.50	T Control lever difference
Tolerance mm : + 0.20	+ Grad : 17.0
TO COT GITTO FIRM	+ tolerance degree : + 6.0
governor spring	+
pre-tension	+ Setting point w/out bumper spring
click setting x : 1.75	† Dahad mass 125
	+ Rated speed rpm : 425
FULL LOAD DELTWEDY AT FULL LOAD STOR	+ rack travel mm : 5.00
FULL LOAD DELIVERY AT FULL LOAD STOP	† Tolerance mm : + 0.10
	T

Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 425 rack travel mm : 6.00 Tolerance mm : $\leftarrow 0.10$ TORQUE CONTROL Rated speed rpm : 950 rack travel mm : 13.30 Tolerance mm : \leftarrow 0.05 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa : 850 Rated speed rpm : 500 Pressure hPa : 10.30 rack travel mm : : +- 0.10 Tolerance mm MEASUREMENT Rated speed rpm : 500 rressure hPa : 350 rack travel mm : 11.30 Tolerance mm Tolerance mm : + 0.20 FUEL DELIVERY CHARACTERISTICS Aneroid pressure Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 80.8 Tolerance cm3/1000 strokes : +- 1.0

Check tolerance : +- 3.0 cm3/1000s. STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : +-0.50Del. quantity cm3/1000 strokes : 122.5 Tolerance cm3/1000 strokes : +- 10.0Check tolerance cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 425 Rack travel in mm: 6.00 Tolerance mm : \leftarrow 0.10 Del. quantity cm3/1000 strokes : 23.5 Tolerance cm3/1000 strokes : \leftarrow 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance : cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 03.06.98 : ISO 4113

Combination No. : 0 402 066 716

Injection pump

Pump designation : PES6P110A120RS3397...

EP type number : 0 412 016 758

Governor

Governer design. : RSV500...1000P2A690.

Governer no. : 0 421 833 612

Cust. part No. : 3930530

Customer-spec. information Customer : CDC Motor : 6CT/ : 6CTAA Power KW : 151.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : \leftarrow 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 Tolerance bar : ← 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.60 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

"NW after s.o.d. : 8.25 Tolerance : \leftarrow 0.50

Check

tolerance "NW : + 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

: 15.00 travel Difference ° CS : 1.50

	+
BASIC SETTING	governor spring pre-tension
Rated speed rpm : 1000	click setting x : 3.50
Rack travel in mm : 11.65	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm : + 0.05	Rated speed rpm : 1000 Aneroid pressure
Del. quantity cm3/1000 strokes : 151.5	hPa : 1200 - Del. quantity - cm3/1000 strokes : 151.5
Tolerance cm3/1000 strokes : + 1.0	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Check tolerance cm3/1000s. : + 3.0	cm3/1000s. : +- 3.0 Spreed
Spreed	Tolerance cm3/1000 strokes : 8.0 Check tolerance
Tolerance cm3/1000 strokes : 8.0	cm3/1000s. : 12.0
Check tolerance cm3/1000s. : 12.0	CONTROL LEVER
Rated speed rpm : 500	control lever position degree : 98.0 tolerance degree : +- 4.0
Rack travel in mm: 4.90	+ RATED SPEED
Tolerance mm : + 0.10 - Del. quantity -	rack travel mm : 10.60 Rated speed rpm : 1075
cm3/1000 strokes : 27.0 -	Tolerance 1/min : +- 5
Tolerance - cm3/1000 strokes : +- 2.0 - Check tolerance -	Check speed 1/min : +- 10
cm3/1000s. : +- 4.5 Spreed	rack travel mm : 4.00 Rated speed rpm : 1150
Tolerance - cm3/1000 strokes : 4.0 -	Tolerance 1/min : +- 5 Check
Check tolerance - cm3/1000s. : 6.5	speed 1/min : +- 10
(B) SETTING OF INJECTION PUMP	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1275
WITH GOVERNOR	
-	rack travel mm : 4.00 Rated speed rpm : 1150
GUIDE SLEEVE POSITION	Tolerance 1/min : +- 15 Check speed 1/min : +- 20
control lever	
position degree : - 3 Rated speed rpm : 800	
Rack travel in mm : 0.50 - Tolerance mm : + 0.20 -	LOW IDLE
TOCCIONOC HAID O.EO	

G06

control lever position degree : 80.0 tolerance degree : +- 4.0 Control lever difference 18.0 Grad tolerance degree : +- 4.0 Setting point w/out bumper spring 500 Rated speed rpm 4.40 rack travel mm Rated speed rpm 100 CRT mm min. : > 19.00Testing: Rated speed rpm 500 rack travel mm : 4.90 : +- 0.10 Tolerance mm TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 11.65 Tolerance mm : ← 0.05 Rated speed rpm : 700 rack travel mm : 12.80 Tolerance mm : +- 0.20 Rated speed rpm : 850 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa 1200 500 Rated speed rpm : Pressure hPa : rack travel mm 12.00 Tolerance mm : +- 0.20 **MEASUREMENT** Rated speed rpm : 500

.

950

: +- 0.20

12.70

Pressure hPa : 850 rack travel mm : 12.30 Tolerance mm : + 0.20 FUEL DELIVERY CHARACTERISTICS Aneroid pressure 1200 700 Rated speed rpm : Del. quantity cm3/1000 strokes : 184.5 Tolerance cm3/1000 strokes : +- 2.0Check tolerance : +- 5.0 cm3/1000s. rack travel mm : 12.70 Tolerance mm : +- 0.20 Aneroid pressure Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 164.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : **←** 3.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 21.00 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 157.0 Tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s. : +- 25.D

LOW IDLE

Rated speed rpm : 500

Rack travel in mm: 4.90 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 27.0

G07

Pressure hPa rack travel mm :

Tolerance mm

Tolerance
cm3/1000 strokes : + 2.0
Check tolerance
cm3/1000s. : + 4.5
Spreed
Tolerance
cm3/1000 strokes : 4.0
Check tolerance
cm3/1000s. : 6.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 29.05.98 : ISO 4113

Combination No. : F 002 A0Z 069

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV500...1100A2C947R

Governer no. : F 002 A20 248

Cust. part No. : 3933623

Customer-spec. information Customer : CDC : 6BTA Motor Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

40 temp. °C : 40
Tolerance °C : +- 2.0 temp. °C

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar $: \leftarrow 0.1$

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 har

Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

600

x inside diameter: 2.0

x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

: **←** 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 8.50 Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.25

G09

Tolerance mm : + 0.05	+ Rated speed rpm : 1100 + Aneroid pressure
Del. quantity cm3/1000 strokes : 113.5	+ hPa : 1400 + Del. quantity
	+ cm3/1000 strokes : 113.5
Tolerance cm3/1000 strokes : +- 1.0	Tolerance cm3/1000 strokes : + 1.0 Check tolerance
Check tolerance cm3/1000s. : + 3.0	cm3/1000s. : +- 3.0 + Spreed
Spreed	Tolerance cm3/1000 strokes : 3.5 Check tolerance
Tolerance cm3/1000 strokes : 3.5	cm3/1000s. : 6.0
Check tolerance cm3/1000s. : 6.0	CONTROL LEVER
	control lever
	position degree : 98.0
Rated speed rpm : 500	tolerance degree : +- 4.0
Rack travel in mm : 5.85	T RATED SPEED
Tolerance mm : + 0.10	rack travel mm : 12.25
Del. quantity	Rated speed rpm : 1160
cm3/1000 strokes : 21.5	+ Tolerance 1/min : ← 5
Tolerance	+ Check
cm3/1000 strokes : +- 2.0 Check tolerance	+ speed 1/min : + 10
cm3/1000s. : +- 4.5	Track travel mm : 4.00
Spreed	+ Rated speed rpm : 1265
Tolerance	+ Tolerance 1/min : + 5
cm3/1000 strokes : 3.5	+ Check
Check tolerance	+ speed 1/min : + 10
cm3/1000s. : 5.5	+
	+ rack travel mm : 0.85
	Tolerance mm : + 0.55
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+ Rated speed rpm : 1400 +
	+ rack travel mm : 4.00
	+ Rated speed rpm : 1265
OUT OF ALL PROPERTY DATE TO ALL	+ Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	+ Check + speed 1/min : +- 20
	+ speed 1/min : +- 20
control lever position degree : - 3 Rated speed rpm : 800	
	LOW IDLE
Rack travel in mm : 0.50	+
Tolerance mm : +- 0.20	†
	+ control lever
governor spring	position degree : 78.0
pre-tension	tolerance degree : +- 4.0
click setting $x : 2.50$	Control lever difference
	Grad : 20.0
FULL LOAD DELIVERY AT FULL LOAD STOP	tolerance degree : + 6.0
TOLE COMP PERSONNELL PROPERTY OF THE CONTROL OF THE	+

Setting point w/out bumper spring

Rated speed rpm	:	500
rack travel mm	:	5.35
Tolerance mm	: +	- 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

Testing:

Rated speed rpm	:	500
rack travel mm	:	5.85
Tolerance mm	: +	- 0.10

TORQUE CONTROL

Rated speed rp	m:		1100
rack travel mm	:		13.25
Tolerance mm	:	+-	0.05

Rated speed rpm : 750 rack travel mm : 14.50 Tolerance mm : + 0.10

Rated speed rpm : 1000 rack travel mm : 13.90 Tolerance mm : + 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	500
Pressure hPa	:	1400

Rated speed rpm : 500
Pressure hPa : rack travel mm : 10.50
Tolerance mm : + 0.20

MEASUREMENT

Rated	speed	rpm	:	500
-------	-------	-----	---	-----

Pressure hPa	:	800
rack travel mm	:	13.25
Tolerance mm	: +-	- 0.20

Pressure hPa : 600 rack travel mm : 11.85 Tolerance mm : + 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa Rated speed rpm	:	,	1400 750
Del. quantity cm3/1000 strokes Tolerance	:		132.5
cm3/1000 strokes Check tolerance	:	+-	2.0
cm3/1000s.	:	+-	4.0
rack travel mm Tolerance mm	:	+-	13.90 0.20

Aneroid pressure hPa Rated speed rpm	:		- 500
Del. quantity cm3/1000 strokes Tolerance	;		82.0
cm3/1000 strokes	:	+-	1.0
Check tolerance cm3/1000S.	:	+-	3.0

STARTING FUEL DELIVERY

Rated speed rpm rack travel mm Tolerance mm	:	+	100 20.50 0.50
Del. quantity cm3/1000 strokes Tolerance	:		121.5
cm3/1000 strokes Check tolerance	:	+-	10.0
cm3/1000s.	:	+-	15.0

LOW IDLE

Rated speed rpm	:		500
Rack travel in mm Tolerance mm	: .	 -	5.85 0.10
Del. quantity cm3/1000 strokes Tolerance	:		21.5
cm3/1000 strokes Check tolerance	: -	+-	2.0
cm3/1000s. Spreed	: -	 -	4.5
Tolerance cm3/1000 strokes	:		3.5

cm3/1000s.	:	5.5	
			

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 15.05.98 : ISO 4113

Combination No. : 0 402 646 705

Injection pump

Pump designation : PE6P12OA320LS7926 EP type number : 0 412 626 976

Governor

Governer design. : RQ375/1150PA1388 Governer no. : 0 421 801 835

Cust. part No. : 022 074 43 02

Customer-spec. information

: MTU Customer

: BR 6 V 183 U Motor

Power KW : 294.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.0

Overflow quantity

min. l/h : 210 Tolerance l/h : + 20.0

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm 4.85 : +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 20.50 : +- 0.50 Tolerance mm

: 6-3-5-2-4-Firing order

: 1-

Phasing : 0-60-120-180-240

: -300-

Tolerance : +- 0.50

Check

: + - 0.75tolerance °NW

Start of delivery mark

: +- 0.10 Tolerance

Check

: **←** 0.75 tolerance °NW

Barrel no. : 6

CRT ZERO POSITION

Rack travel in mm : 14.00 Tolerance mm : + 0.10	Rated speed rpm : 375 guide sleeve travel mm : 2.23 Tolerance mm : + 0.20
BASIC SETTING	Rated speed rpm : 1150
Rated speed rpm : 600	+ guide sleeve + travel mm : 6.30 + Tolerance mm : + 0.10
Rack travel in mm : 14.00 Tolerance mm : + 0.10	Rated speed rpm : 472 guide sleeve travel mm : 4.43
Del. quantity cm3/1000 strokes : 260.0	Tolerance mm : + 0.10
Tolerance cm3/1000 strokes : + 1.0	+ Rated speed rpm : 580 + guide sleeve + travel mm : 6.00
Check tolerance	Tolerance mm : + 0.10
cm3/1000s. : + 4.0	Rated speed rpm : 1370 guide sleeve
Spreed	+ travel mm : 11.50 + Tolerance mm : + 0.50
Tolerance	+
cm3/1000 strokes : 5.0	+ Rated speed rpm : 999 + guide sleeve
Check tolerance cm3/1000s. : 9.0	travel mm : 6.23 Tolerance mm : +- 0.10
	i
Rated speed rpm : 375	GUIDE SLEEVE POSITION
Rack travel in mm : 5.20 Tolerance mm : +- 0.10	control lever
Rack travel in mm : 5.20 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 19.0	control lever position degree : 109 Rated speed rpm : 650
Rack travel in mm : 5.20 Tolerance mm : + 0.10 Del. quantity	control lever
Rack travel in mm : 5.20 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed	control lever position degree : 109 Rated speed rpm : 650 Rack travel in mm : 20.00
Rack travel in mm : 5.20 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 6.0	control lever position degree : 109 Rated speed rpm : 650 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 600
Rack travel in mm : 5.20 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance	control lever position degree : 109 Rated speed rpm : 650 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 5.20 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 10.0	control lever position degree : 109 Rated speed rpm : 650 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 600 Aneroid pressure hPa : 1100 Del. quantity cm3/1000 strokes : 260.0
Rack travel in mm : 5.20 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance	control lever position degree : 109 Rated speed rpm : 650 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 600 Aneroid pressure hPa : 1100 Del. quantity cm3/1000 strokes : 260.0 Tolerance cm3/1000 strokes : + 1.0
Rack travel in mm: 5.20 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 19.0 Tolerance cm3/1000 strokes: + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000 strokes: 10.0 (B) SETTING OF INJECTION PUMP	control lever position degree : 109 Rated speed rpm : 650 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 600 Aneroid pressure hPa : 1100 Del. quantity cm3/1000 strokes : 260.0 Tolerance
Rack travel in mm : 5.20 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 10.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1208	control lever position degree : 109 Rated speed rpm : 650 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 600 Aneroid pressure hPa : 1100 Del. quantity cm3/1000 strokes : 260.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cin3/1000 strokes : 5.0
Rack travel in mm : 5.20 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 10.0	control lever position degree : 109 Rated speed rpm : 650 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 600 Aneroid pressure hPa : 1100 Del. quantity cm3/1000 strokes : 260.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance

CONTROL LEVER	
control lever position degree tolerance degree	: 98.0 : ← 4.0
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 13.10 : 1202 : +- 8
rack travel mm Rated speed rpm Tolerance 1/min	: 1285
rack travel mm Tolerance mm Rated speed rpm	: 0.75 : ← 0.75 : 1380
LOW IDLE	
control lever position degree tolerance degree	: 74.0 : + 4.0
Setting point w/o	out bumper spring
Rated speed rpm	
Rated speed rpm CRT mm min.	
•	: 275
CRT mm min.	: 275 : > 7.50
CRT mm min. Testing: Rated speed rpm rack travel mm	: 275 : > 7.50 : 375 : 5.20
CRT mm min. Testing: Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min TORQUE CONTROL	: 275 : > 7.50 : 375 : 5.20 : + 0.10 : 2.00 : 460
CRT mm min. Testing: Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min TORQUE CONTROL Rated speed rpm rack travel mm	: 275 : > 7.50 : 375 : 5.20 : + 0.10 : 2.00 : 460 : + 20 : 600 : 14.00 : + 0.10 : 1150

Rated speed rpm rack travel mm Tolerance mm	: 1000 : 14.35 : ← 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	
2-stage LDA setti	ing
Rated speed rpm Pressure hPa	: 500 : 1100
MEASUREMENT	
Pressure hPa rack travel mm Tolerance mm	: 300 : -4.30 : +- 0.05
Pressure hPa rack travel mm Tolerance mm	: 700 : −1.40 : ← 0.15
Pressure hPa rack travel mm Tolerance mm	: 1600 : 0.25 : ← 0.05
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 290
Check speed 1/min Check	: > 80
speed 1/min	: < 310
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 2000 : 1150
Del. quantity cm3/1000 strokes	: 260.0
Tolerance cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000s.	: +- 4.5
Tolerance cm3/1000 strokes	: 8.0
Check tolerance	

Aneroid pressure hPa Rated speed rpm rack travel mm	:	2000 700 14.80
Tolerance mm Del. quantity cm3/1000 strokes	:	+ 0.10 277.0
Tolerance cm3/1000 strokes	:	+ 2.0
Check tolerance cm3/1000\$. Spreed	:	← 5.0
Tolerance cm3/1000 strokes Check tolerance	:	8.0
cm3/1000s.	:	12.0
Aneroid pressure		
Rated speed rpm Del. quantity	:	500
cm3/1000 strokes	:	133.0

U 1000 0 CT 01100	•	
Tolerance		
cm3/1000 strokes	: +-	- 1.0
Check tolerance		
cm3/1000s.	: +-	- 4.0
Spreed		
Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance		
cm3/1000S.	:	12.0

REDUCED QUANTITY

Aneroid pressure 2000 hPa Rated speed rpm : 1150 rack travel mm : 11.20 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 196.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000S. : +- 5.0 Spreed Tolerance 8.0 cm3/1000 strokes : Check tolerance cm3/1000S. 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00

Del. quantity		
cm3/1000 strokes	:	255.0
Tolerance		
cm3/1000 strokes	: +-	- 15.0
Check tolerance		
cm3/1000s.	: +-	- 19.0

		_		
LOW IDLE				
Rated speed rpm	:		375	
Rack travel in mm Tolerance mm Del. quantity	-	+-	5.20 0.10	
cm3/1000 strokes	:		19.0	
Tolerance cm3/1000 strokes Check tolerance	:	+-	3.0	
cm3/1000s.	:	+-	6.0	
Spreed Tolerance				
cm3/1000 strokes	:		6.0	
Check tolerance cm3/1000s.	:		10.0	

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.05.98 Test oil : ISO 4113

Combination No. : 0 402 648 701

Injection pump

Pump designation : PE8P120A320LS7906 EP type number : 0 412 628 921

Governor

Governer design. : RQ300/1050PA1341 Governer no. : 0 421 801 819

Cust. part No. : 04222 3944 KY

Customer—spec. information

Customer : KHD

Motor : BF8M1015/C

Power KW : 400.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 033

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 220 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.05 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 8-7-2-6-5 :-4-3-1

Phasing : 0-45-90-135-180

: -225-270-315
Tolerance : + 0.50

Check

tolerance °NW : + 0.75

Start of delivery blocking

°NW after s.o.d. : 315.00 Tolerance : $\leftarrow 0.50$

Check

tolerance °NW : +- 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm Tolerance mm	: 14.00 : + 0.05	Rated speed rpm : 434 guide steeve travel mm : 3.65
Del. quantity cm3/1000 strokes	: 350.0	Tolerance mm : + 0.10 Rated speed rpm : 590
Tolerance cm3/1000 strokes	: + 1.0	guide sleeve travel mm : 6.00 Tolerance mm : + 0.10
Check tolerance cm3/1000s.	: + 4.0	Rated speed rpm : 1290
Spreed		+ guide sleeve + travel mm : 11.50 + Tolerance mm : + 0.50
Tolerance cm3/1000 strokes	: 8.0	<u> </u>
Check tolerance cm3/1000s.	: 9.0	+ GUIDE SLEEVE POSITION
		control lever position degree : 90 Rated speed rpm : 700
Rated speed rpm		Rack travel in mm : 10.20
Rack travel in mm Tolerance mm Del. quantity	: 5.00 : +- 0.10	+ Tolerance mm : +- 0.80
cm3/1000 strokes Tolerance	: 23.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes Check tolerance	: +- 3.0	Rated speed rpm : 1050 Aneroid pressure
cm3/1000s. Spreed	: + 6.0	hPa : 1700 + Del. quantity
Tolerance cm3/1000 strokes	: 8.0	cm3/1000 strokes : 350.0 + Tolerance
Check tolerance cm3/1000s.	: 12.0	cm3/1000 strokes : + 1.0 + Check tolerance
		+ cm3/1000s. : + 4.0 + Spreed
(B) SETTING OF IN. WITH GOVERNOR	JECTION PUMP	Tolerance : 8.0
CUIDE SI EEUE TRAVE	21	theck tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAVE		Ŧ
Rated speed rpm guide sleeve travel mm	: 1108 : 6.53	CONTROL LEVER
Tolerance mm	: + 0.15	control lever position degree : 101.0
Rated speed rpm guide sleeve	: 300	tolerance degree : + 4.0
travel mm Tolerance mm	: 1.60 : + 0.20	RATED SPEED rack travel mm : 13.00
Rated speed rpm	: 1050	Rated speed rpm : 1100 Tolerance 1/min : +- 5
guide sleeve travel mm Tolerance mm	: 6.00 : +- 0.10	rack travel mm : 4.00 Rated speed rpm : 1200

Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300 LOW IDLE control lever position degree : 72.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 200 CRT mm min. :>6.50Testina: Rated speed rpm : 300 rack travel mm : 5.00 Tolerance mm : $\leftarrow 0.10$ rack travel mm : 2.00 Rated speed rpm : 420 Tolerance 1/min : ← 20 TORQUE CONTROL Rated speed rpm : 1050 rack travel mm : 14.00 Tolerance mm : + 0.05 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 400 Pressure hPa : 1700 rack travel mm : 14.00 Tolerance mm : +- 0.05 Rated speed rpm : 400 Pressure hPa : - rack travel mm : 8.75 : +- 0.20 Tolerance mm **MEASUREMENT** Rated speed rpm : 400 Pressure hPa : 570

G19

rack travel mm : 10.50 Tolerance mm : \leftarrow 0.20 Pressure hPa : 1100 rack travel mm : 13.00 : +- 0.05 Tolerance mm FUEL DELIVERY CHARACTERISTICS Aneroid pressure Rated speed rpm : 400 Del. quantity cm3/1000 strokes : 240.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 8.7 8.75 Tolerance mm : \leftarrow 0.30 Del. quantity cm3/1000 strokes : 135.0 Tolerance cm3/1000 strokes : \leftarrow 20.0 Check tolerance : +- 24.0 cm3/1000s. LOW IDLE Rated speed rpm : 300 Rack travel in mm : 5.00 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 23.0 Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 03.06.98

Test oil

: ISO 4113

Combination No. : 0 402 746 655

Injection pump

Pump designation : PES6P120A320RS7343

EP type number : 0 412 726 915

Governor

Governer design. : RQV300...1000PA1160

: -1K

Governer no.

: 0 421 815 559

Cust. part No. : 5168 66-250

Customer-spec. information

Customer

: RENAULT V.I.

Motor

: MIDR 062356 B41

Power KW

: 288.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar

: **←** 1.5

: 1 680 750 089

Outside diameter : 8.0

Test lines

x inside diameter : 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

Prestroke mm 4.50

: +- 0.05 Tolerance mm

Check

: **←** 0.10 tolerance mm

Rack travel in mm : 11.00

Tolerance mm : \leftarrow 1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Start of delivery mark

*Nw after s.o.d. : -0.40

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

21.00

and maximum rack

11.00 travel

Difference ° CS : 2.25

CRT ZERO POSITION

	† Tolerance mm : +- 0.20
Rack travel in mm : 13.00 Tolerance mm : + 0.05	+ Rated speed rpm : 827 + guide sleeve
	+ travel mm : 5.96 + Tolerance mm : + 0.25
BASIC SETTING	+ Tolerance mm : + 0.25
Rated speed rpm : 1000	Rated speed rpm : 550 guide sleeve
	travel mm : 3.66
Del. quantity cm3/1000 strokes : 356.0	Tolerance mm : +- 0.25
Tolerance	+ Rated speed rpm : 1440 + guide sleeve
cm3/1000 strokes : + 1.0	travel mm : 13.50 Tolerance mm : + 0.50
Check tolerance	+
cm3/1000s. : \leftarrow 4.0	GUIDE SLEEVE POSITION
Spreed	GOIDE SLEEVE POSITION
Tolerance	T control lever
cm3/1000 strokes : 5.0	position degree : - 1
Charle to Language	Rated speed rpm : 1275
Check tolerance cm3/1000s. : 9.0	Rack travel in mm : 12.00 Tolerance mm : + 1.30
	† 10 Cerarice Imir . + 1.30
Dated aread area : 300	+ FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 300	+ FOLL LOAD DELIVERY AT FOLL LOAD STOP
Rack travel in mm : -7.80	Rated speed rpm : 1000
Tolerance mm : + 0.10	+ Aneroid pressure
Del. quantity cm3/1000 strokes : 39.0	hPa : 1200
Tolerance	+ Del. quantity + cm3/1000 strokes : 356.0
cm3/1000 strokes : + 1.5	+ Tolerance
Check tolerance	+ cm3/1000 strokes : + 1.0
cm3/1000s. : \leftarrow 5.0	+ Check tolerance
Spreed	+ cm3/1000s. : +- 4.0
Tolerance cm3/1000 strokes : 8.0	+ Spreed + Tolerance
Check tolerance	- cm3/1000 strokes : 5.0
cm3/1000s. : 12.0	+ Check tolerance
	+ cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP	1
WITH GOVERNOR	+
	+ CONTROL LEVER
GUIDE SLEEVE TRAVEL	control lever
GOIDE SEEEVE TRAVEL	position degree : 296.0
Rated speed rpm : 1113	tolerance degree : + 4.0
guide sleeve	+
travel mm : 8.82	RATED SPEED
Tolerance mm : +- 0.15	+ rack travel mm : -1.00 + Rated speed rpm : 1100
Rated speed rpm : 300	+ Rated speed rpm : 1100 + Tolerance 1/min : +- 5
guide sleeve	1000101100 17111111
travel mm : 1.29	rack travel mm : -9.00

Rated speed rpm : 1225 Tolerance 1/min : ← 15 rack travel mm : -12.50 Tolerance mm : +- 0.50 Rated speed rpm : 1350 LOW IDLE control lever position degree : 252.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 200 CRT mm min. : > -6.80Testing: 300 Rated speed rpm : rack travel mm : -7.80 : +- 0.10 Toterance mm Rated speed rpm : 390 TORQUE CONTROL Rated speed rpm : 1000 Rated speed rpm : 600 rack travel mm : -0.35: **←** 0.15 Tolerance mm Rated speed rpm : 800 rack travel mm : 0.10 : **←** 0.15 Tolerance mm Rated speed rpm : 350 rack travel mm : -1.55 Tolerance mm : +-0.30: +- 0.30 Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 1000 Pressure hPa 1200 500

Tolerance mm : \leftarrow 0.30 MEASUREMENT Rated speed rpm : 1000 320 Pressure hPa : rack travel mm : -3.00 : +- 0.15 Tolerance mm Pressure hPa : 520 rack travel mm : -1.90 Tolerance mm : + 0.05 Start interlock 100 Rated speed rpm : > Rated speed rpm : < 225 Check speed 1/min : > 80 Check speed 1/min : < 245 FUEL DELIVERY CHARACTERISTICS Aneroid pressure 1200 Rated speed rpm : 600 Del. quantity cm3/1000 strokes : 390.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. : +- 6.0 rack travel mm : 0.10Tolerance mm : + 0.15 Aneroid pressure hPa Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 238.0 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. : \leftarrow 4.0 STARTING FUEL DELIVERY

Rated speed rpm :

rack travel mm :

100

20.25

Rated speed rpm : Pressure hPa :

rack travel mm :

-4.20

Tolerance mm	: +-	0.75
Del. quantity cm3/1000 strokes	:	185.0
Tolerance cm3/1000 strokes	: +-	15.0
Check tolerance cm3/1000s.	: +-	19.0

LOW IDLE

Rated speed rpm	:		300
Rack travel in mm Tolerance mm Del. quantity	-	+-	
	:		39.0
cm3/1000 strokes Check tolerance	:	+-	1.5
cm3/1000S. Spreed	:	+	5.0
Tolerance cm3/1000 strokes Check tolerance	:		8.0
cm3/1000s.	:		12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 15.10.97 : ISO 4113

Combination No. : 0 403 444 155

Injection pump

Pump designation : PES4MW100/720RS1235

EP type number : 0 413 404 121

Governor

Governer design. : RQV300...1300MW139

Governer no. : 0 420 083 304

Cust. part No. : 0260748502

Customer-spec. information : MB-NFZ Customer : 0M364A Motor Power KW : 79.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 : +- 2.0 Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar : +- 1.5 Tolerance bar

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

: 3.70 : +- 0.05 Prestroke mm Tolerance mm Check

tolerance mm : + 0.10

Rack travel in mm : 20.00 Tolerance mm : + 1.00

Firing order : 1-3-4-2

: 0-90-180-270 : +- fi 50 Phasing Tolerance : **←** 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 12.90 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 88.0

Tolerance cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance cm3/1000S.	: 6.0
Rated speed rpm	: 300
Rack travel in mm	: 7.80 : +- 0.10
Del. quantity cm3/1000 strokes	: 12.0
Tolerance cm3/1000 strokes	: ← 2.0
Check tolerance cm3/1000S. Spreed	: +- 4.5
Tolerance cm3/1000 strokes	: 3.5
Check tolerance cm3/1000s.	: 5.5
(B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV	
Rated speed rpm	: 1355
guide sleeve travel mm Tolerance mm	: 10.30 : + 0.15
Rated speed rpm guide sleeve	: 300
travel mm Tolerance mm	: 1.25 : +- 0.20
Rated speed rpm	: 894
Rated speed rpm guide sleeve travel mm Tolerance mm	: 894 : 6.20 : + 0.25
guide sleeve travel mm Tolerance mm Rated speed rpm	
guide sleeve travel mm Tolerance mm	: 6.20 : + 0.25
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: 6.20 : + 0.25 : 510 : 3.55 : + 0.25
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 6.20 : + 0.25 : 510 : 3.55 : + 0.25
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 6.20 : + 0.25 : 510 : 3.55 : + 0.25 : 1600 : 13.50 : + 0.50

Rack travel in mm Tolerance mm	: 10.00 : +- 2.70
FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm	: 1300
Aneroid pressure	700
hPa Del. quantity	: 700
cm3/1000 strokes Tolerance	: 88.0
cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: + 3.0
Spreed	3.0
Tolerance	
cm3/1000 strokes Check tolerance	: 3.5
cm3/1000S.	: 6.0
CONTROL LEVER control lever position degree tolerance degree RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min rack travel mm	: 11.90 : 1345 : ← 5
Rated speed rpm Tolerance 1/min	: 4.00 : 1460 : +- 15
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : ← 0.50 : 1550
LOW IDLE	
control lever position degree tolerance degree	: 76.0 : + 4.0
Setting point w/ou	nt bumper spring
Rated speed rpm	: 200
CRT mm min.	: > 9.50

Rated speed rpm : 1430

Testing:

Rated speed rpm : 300 rack travel mm : 7.80 Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 1300 rack travel mm : 12.90 Tolerance mm : + 0.05

Rated speed rpm : 600 rack travel mm : 13.40 Tolerance mm : + 0.10

Rated speed rpm : 1150 rack travel mm : 13.10 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

CRT ZERO POSITION

Rack travel in mm: 11.90 Tolerance mm : + 0.05

Rated speed ip...

Pressure hPa : 700
13.40 Rated speed rpm : 500 Tolerance mm : \leftarrow 0.10

Rated speed rpm : 500 Pressure hPa : **←** 0.05 Tolerance mm

MEASUREMENT

Rated speed rpm : 500

. 230 Pressure hra
rack travel mm : 0.90
: + 0.10

Pressure hPa : 150 rack travel mm : 0.40 Tolerance mm : + 0.10

Start interlock

100 Rated speed rpm : > Rated speed rpm : < 200 Check

speed 1/min : > 80 Check

speed 1/min : < 230

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

700 Rated speed rpm : 600 Del. quantity

cm3/1000 strokes : 78.0 Tolerance

cm3/1000 strokes : +- 1.5Check tolerance

cm3/1000s. : +- 4.0 Spreed

Tolerance

cm3/1000 strokes : 5.0 Check tolerance 7.0 cm3/1000s.

rack travel mm : 13.10 Tolerance mm : + 0.10

Aneroid pressure

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 48.0

Tolerance

cm3/1000 strokes : +- 1.0Check tolerance

cm3/1000s. : +- 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 90.0 Tolerance

cm3/1000 strokes : +- 5.0

Check tolerance

: +- 8.0 cm3/1000s.

LOW IDLE

Rated speed rpm : 300

Rack travel in mm: 7.80 Tolerance mm : +- 0.10

Del. quantity		
cm3/1000 strokes	:	12.0
Tolerance		
cm3/1000 strokes	: +-	2.0
Check tolerance		
cm3/1000s.	: +-	4.5
Spreed		
Tolerance		
cm3/1000 strokes	:	3.5
Check tolerance		
cm3/1000s.	:	5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 08.06.98 : ISO 4113

Combination No. : F 000 409 208

Injection pump

Pump designation : PES6A100b320/3RS2691

EP type number : 9 410 230 025

Governor

Governer design. : RSV400...1100A2C969R

: F 000 420 702 Governer no.

Cust. part No. : 3353232

Customer-spec. information Customer : CUMMINS : 6 CT Motor Power KW : 120.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 : 600 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 2.85 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery blocking

°NW after s.o.d. : 10.00 : **←** 0.10

Tolerance Check

tolerance °NW : +- 0.23

Barrel no. : 1

Beginning of delivery differende

and maximum rack

Tolerance mm travel 10.50 : +- 1.50 3.50 Difference ° CS :

BASIC SETTING

Rated speed rpm : 1100 +	
Rack travel in mm: 12.30 + Tolerance mm: + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure
Del. quantity cm3/1000 strokes : 118.0	hPa : - Del. quantity cm3/1000 strokes : 118.0
Tolerance cm3/1000 strokes : + 1.0	Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000s. : + 3.0	Check tolerance cm3/1000s. : +- 3.0 Spreed
Spreed	Tolerance cm3/1000 strokes : 3.5 Check tolerance
Tolerance cm3/1000 strokes : 3.5	cm3/1000s. : 8.0
Check tolerance cm3/1000s. : 8.0	CONTROL LEVER
Rated speed rpm : 400	control lever position degree : 91.0 tolerance degree : +- 6.0
Rack travel in mm: 5.40 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 14.5 Tolerance cm3/1000 strokes: + 2.0 Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance cm3/1000 strokes: 5.5 Check tolerance cm3/1000 strokes: 9.0	RATED SPEED rack travel mm : 11.30 Rated speed rpm : 1155 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1290 Tolerance 1/min : + 15 rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1450
WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION	control lever position degree : 70.0 tolerance degree : +- 6.0
control lever position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.50	Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 4.90 Tolerance mm : + 0.10
Tolerance mm : + 0.20 + governor spring	Rated speed rpm : 100 CRT mm min. : > 19.00
pre-tension + click setting x : 4.00 +	CK1 mm mm. : > 19.00

Testing:

Rated speed rpm : 400 rack travel mm : 5.40 Tolerance mm : +- 0.10

2.00 rack travel mm : Rated speed rpm : 620 Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1100 rack travel mm : 12.30 Tolerance mm : + 0.05

Rated speed rpm : 500 rack travel mm : 12.35
Tolerance mm : + 0.10

Rated speed rpm : 400 rack travel mm : 12.95 Tolerance mm : + 0.25

STARTING FUEL DELIVERY

100 Rated speed rpm : rack travel mm : 20.00 Tolerance mm : +- 1.00

Del. quantity

cm3/1000 strokes : 135.0

Tolerance

cm3/1000 strokes : \leftarrow 8.0

Check tolerance

: + 11.0 cm3/1000s.

LOW IDLE

Rated speed rpm : 400

5.40 Rack travel in mm : Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 14.5

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

: +- 4.5 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 5.5

Check tolerance cm3/1000s. : 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.06.98 Test oil : ISO 4113

Combination No. : 0 400 846 520

Injection pump

Pump designation : PES6A95D410LS2644 EP type number : 0 410 896 924

Governor

Governer design. : RQV250...1100AB1178L

Governer no. : 0 420 212 164

Cust. part No. :

Customer-spec. information

Customer : MAN

: D2566 ME Motor

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40 : +- 2.0

Tolerance °C

Overflow valve : 1 417 413 000

Inlet press. bar : 1.0

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar

: 173.5

Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

H04

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 1.55 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

: 1-5- 3- 6- 2-: 4 Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance °NW : **←** 0.75

BASIC SETTING

Del. quantity

cm3/1000 strokes : 125.5

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s.

: +- 3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s.

6.0

Rated speed rpm : 250 +	Rated speed rpm : 1145
+	Tolerance 1/min : +- 5
Rack travel in mm: 7.00	
Tolerance mm : + 0.10	rack travel mm : 4.00 Rated speed rpm : 1190
Del. quantity + cm3/1000 strokes : 12.0 +	Tolerance 1/min : +- 15
Tolerance +	Total drice Trimiti
cm3/1000 strokes : + 3.0 +	rack travel mm : 0.50
Check tolerance +	Tolerance mm : + 0.50
cm3/1000s. : + 5.5	Rated speed rpm : 1300
Spreed + Tolerance +	
cm3/1000 strokes : 3.5	
Check tolerance	
cm3/1000s. : 5.0	LOW IDLE
+	
(B) SETTING OF INJECTION PUMP	control lever
WITH GOVERNOR +	position degree : 12.0
WITH GOACKIOK	tolerance degree : +- 4.0
 	
	Setting point w/out bumper spring
GUIDE SLEEVE POSITION +	644 d annual new (100
Ĭ	is ad speed rpm : 100
control lever	CRT mm min. : > 8.50
position degree : -1	
Rated speed rpm : 1125	Testing:
14.50	250
Rack travel in mm: 16.50 + Tolerance mm: + 1.30 +	Rated speed rpm : 250 rack travel mm : 7.00
Toterance min . 1- 1.50	Tolerance mm : +- 0.10
	100014.1001
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 2.00
1400	Rated speed rpm : 370
Rated speed rpm : 1100	Tolerance 1/min : +- 30
Aneroid pressure + + + + + + + + + + + + + + + + + + +	
· ·	
Del. quantity +	
Del. quantity + cm3/1000 strokes : 125.5 +	
cm3/1000 strokes : 125.5 + Tolerance +	Start interlock
cm3/1000 strokes : 125.5 Tolerance cm3/1000 strokes : +- 1.0	
cm3/1000 strokes : 125.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance	Rated speed rpm : > 100
cm3/1000 strokes : 125.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0	
cm3/1000 strokes : 125.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed Tolerance	Rated speed rpm : > 100 Rated speed rpm : < 170 Check
<pre>cm3/1000 strokes : 125.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed Tolerance cm3/1000 strokes : 3.5</pre>	Rated speed rpm : > 100 Rated speed rpm : < 170 Check speed 1/min : > 80
<pre>cm3/1000 strokes : 125.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance</pre>	Rated speed rpm : > 100 Rated speed rpm : < 170 Check speed 1/min : > 80 Check
<pre>cm3/1000 strokes : 125.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed Tolerance cm3/1000 strokes : 3.5</pre>	Rated speed rpm : > 100 Rated speed rpm : < 170 Check speed 1/min : > 80
<pre>cm3/1000 strokes : 125.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance</pre>	Rated speed rpm : > 100 Rated speed rpm : < 170 Check speed 1/min : > 80 Check
<pre>cm3/1000 strokes : 125.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance</pre>	Rated speed rpm : > 100 Rated speed rpm : < 170 Check speed 1/min : > 80 Check
<pre>cm3/1000 strokes : 125.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance</pre>	Rated speed rpm : > 100 Rated speed rpm : < 170 Check speed 1/min : > 80 Check speed 1/min : < 190
cm3/1000 strokes : 125.5 Tolerance	Rated speed rpm : > 100 Rated speed rpm : < 170 Check speed 1/min : > 80 Check speed 1/min : < 190 FUEL DELIVERY CHARACTERISTICS
<pre>cm3/1000 strokes : 125.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0</pre>	Rated speed rpm : > 100 Rated speed rpm : < 170 Check speed 1/min : > 80 Check speed 1/min : < 190 FUEL DELIVERY CHARACTERISTICS Aneroid pressure
cm3/1000 strokes : 125.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0 CONTROL LEVER control lever position degree : 48.0	Rated speed rpm : > 100 Rated speed rpm : < 170 Check speed 1/min : > 80 Check speed 1/min : < 190 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : -
<pre>cm3/1000 strokes : 125.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0</pre>	Rated speed rpm : > 100 Rated speed rpm : < 170 Check speed 1/min : > 80 Check speed 1/min : < 190 FUEL DELIVERY CHARACTERISTICS Aneroid pressure
cm3/1000 strokes : 125.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0 CONTROL LEVER control lever position degree : 48.0	Rated speed rpm : > 100 Rated speed rpm : < 170 Check speed 1/min : > 80 Check speed 1/min : < 190 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : - Rated speed rpm : 500

H05

Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance : +- 5.5 cm3/1000s. Aneroid pressure hPa

750 Rated speed rpm : Del. quantity cm3/1000 strokes : 114.5 Tolerance

cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm : 14.30 : +- 0.30 Tolerance mm Del. quantity cm3/1000 strokes : 126.5 Tolerance

cm3/1000 strokes : \leftarrow 5.0

Check tolerance

cm3/1000s. : +- 8.0

LOW IDLE

Rated speed rpm : 250

Rack travel in mm: 7.00 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 12.0 Tolerance

cm3/1000 strokes : +-3.0

Check tolerance

5.5 cm3/1000s. : +-

Spreed Tolerance

cm3/1000 strokes : 3.5

Check tolerance

5.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 09.06.98 : ISO 4113

Combination No. : 9 400 030 734GA

Injection pump

Pump designation : PES4A95D320/3RS2880

EP type number : 9 410 037 214

Governor

Governer design. : RSV500...1100A0C847R

: 9 420 034 713 Governer no.

Cust. part No. : 3933290

Customer-spec. information Customer : CDC : 4BT3.9 Motor : 74.5 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 093

Inlet press. bar : 2.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

17.0 Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 2.45 : ← 0.05 Tolerance mm Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-3-4-2

: 0-90-180-270 Phasing

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

°NW after s.o.d. : 7.50 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.55

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 107.5	+ Aneroid pressure + hPa : 1000 + Del. quantity
Tolerance cm3/1000 strokes : + 1.0	+ cm3/1000 strokes : 107.5 + Tolerance
Check tolerance cm3/1000s. : + 3.0	+ cm3/1000 strokes : + 1.0 + Check tolerance + cm3/1000s. : + 3.0
Spreed	Spreed Tolerance
·	+ cm3/1000 strokes : 3.5
Tolerance cm3/1000 strokes : 3.5	Check tolerance cm3/1000s. : 6.0
Check tolerance : 6.0	CONTROL LEVER
	+
Rated speed rpm : 500	control lever position degree : 101.0 tolerance degree : + 4.0
Rack travel in mm : 5.55	+
Tolerance mm : +- 0.10 Del. quantity	+ RATED SPEED + rack travel mm : 11.50
cm3/1000 strokes : 20.5	+ Rated speed rpm : 1165
Tolerance cm3/1000 strokes : +- 2.0	Tolerance 1/min : +- 5
Check tolerance	rack travel mm : 6.00
cm3/1000s. : +- 4.5 Spreed	Rated speed rpm : 1230 Tolerance 1/min : + 5
Tolerance	+
cm3/1000 strokes : 3.5 Check tolerance	+ rack travel mm : 0.85 + Tolerance mm : + 0.55
cm3/1000s. : 5.5	Rated speed rpm : 1375
	rack travel mm : 6.00
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1230
WITH GOVERNOR	Tolerance 1/min : + 15
	Į.
GUIDE SLEEVE POSITION	İ
	LOW IDLE
control lever position degree : - 3	+ control lever
Rated speed rpm : 800	position degree : 81.0
Rack travel in mm : 0.50	tolerance degree : + 4.0
Tolerance mm : + 0.20	Control lever difference Grad: 20.0
governor spring	tolerance degree : +- 6.0
pre-tension click setting x : 3.25	Setting point w/out bumper spring
	Rated speed rpm : 500
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 5.05 Tolerance mm : + 0.10
Rated speed rpm : 1100	+
•	+ Rated speed rpm : 100

CRT mm min.	: > 19.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1100 : 12.55 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.50 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 750 : 1000
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 750 : - : 11.90 : + 0.10
MEASUREMENT	
Rated speed rpm	: 750
Pressure hPa rack travel mm Tolerance mm	: 440 : 12.40 : +- 0.20
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1000 : 750
cm3/1000 strokes	: 119.5
Tolerance cm3/1000 strokes	: ← 2.0
Check tolerance cm3/1000s.	: +- 4.0

H09

Rated speed rpm : 750
Del. quantity
cm3/1000 strokes : 96.5
Tolerance
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000s. : + 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 122.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 15.0

LOW IDLE

Rated speed rpm : 500

Rack travel in mm : 5.55
Tolerance mm : + 0.10
Del. quantity
cm3/1000 strokes : 20.5
Tolerance
cm3/1000 strokes : + 2.0
Check tolerance
cm3/1000s. : + 4.5
Spreed
Tolerance
cm3/1000 strokes : 3.5
Check tolerance
cm3/1000s. : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 10.06.98 : ISO 4113

Combination No. : 0 400 074 870

Injection pump

Pump designation : PES4M55C32ORS193 EP type number : 0 410 054 931

Governor

Governer design. : RSF400/2000M91 Governer no. : 0 420 021 296

Cust. part No. :

Customer-spec. information

Customer : SSANGYONG : 0M661 D23 LA Motor

Power KW : 73.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

: 1 688 901 111 assembly

Opening pressure

bar : 148.5 Tolerance bar : + 1.5 bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 1.75
Tolerance mm : + 0.05 Check : + 0.10 tolerance mm

Rack travel in mm : 21.00Tolerance mm : \leftarrow 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270

1.00

Start of delivery blocking

°NW after s.o.d. : 16.50 Tolerance : ← 0.20

Check

tolerance °NW : +- 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 14.60 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 56.1

Tolerance

 $cm3/1000 strokes : \leftarrow 0.5$

Check tolerance : +- 1.5 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 2.5

	+
Check tolerance cm3/1000s. : 3.0	SET IDLE CONTROL LEVER POSITION
tilis/10003 5.0	T SET IDLE CONTROL LEVER POSITION
Rated speed rpm : 400	Rated speed rpm : 1000
Rack travel in mm : 5.40	+ CRT mm max. : 1.95
Tolerance mm : +- 0.10	+
Del. quantity	1011 701 5
cm3/1000 strokes : 6.7 Tolerance	+ LOW IDLE
cm3/1000 strokes : +- 0.5	I
Spreed	control lever
Tolerance	position degree : 8.0
cm3/1000 strokes : 1.0	tolerance degree : + 2.0
	t Cathina paint/aut buman anning
(B) SETTING OF INJECTION PUMP	+ Setting point w/out bumper spring + Rated speed rpm : 400
WITH GOVERNOR	rack travel mm : 5.40
WETT GOVERNOR	. 3.40
TN E OTACE	+ SET IDLE AUXILIARY SPRING
IDLE STAGE	Rated speed rpm : 500
	+ rack travel mm : 3.90
Rack travel in mm : 5.50	+ Tolerance mm : + 0.10
Tolerance mm : ← 0.10	+
	+ Load pick-up
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 200
	rack travel mm : 12.70
Rated speed rpm : 1000	+
Ref. pressure	+ Rated speed rpm : 1000
ALDA / ADA hPa : 1700 Del. quantity	† CRT mm max. : 1.95
cm3/1000 strokes : 56.1	T CRI IIIII III III 1.73
Tolerance	∔ rack travel mm : 5.40
cm3/1000 strokes : + 0.5	Rated speed rpm : 400
Check tolerance	+
cm3/1000s. : + 1.5	†
Spreed Tolerance	TORQUE CONTROL
cm3/1000 strokes : 2.5	- TOTAGE CONTINUE
Check tolerance	Rated speed rpm : 1000
cm3/1000s. : 3.0	rack travel mm : 14.60 Tolerance mm : + 0.05
	Tolerance mm : +- 0.05
DATEN SPEEN	Rated speed rpm : 1700
RATED SPEED	rack travel mm · 13.85
	rack travel mm : 13.85 Tolerance mm : +- 0.10
control lever	+
position degree : 50.0	Rated speed rpm : 2000
	Rated speed rpm : 2000 rack travel mm : 13.30 Tolerance mm : + 0.10
Rated speed rpm : 2300	† Tolerance mm : + U.10
rack travel mm : 8.00 Tolerance mm : + 0.20	Pated speed rom · 1000
TOTE PARTIE THAT THE U.ZU	Rated speed rpm : 1000 rack travel mm : 12.00
Rated speed rpm : 2600	Tolerance mm : +- 0.10
rack travel mm : 0.50	+
Rated speed rpm : 2600 rack travel mm : 0.50 Tolerance mm : + 0.60	+
	+ ADJUSTMENT TEST ADA/ALDA

	†	Del. quantity	/3.5
SETTING	†	cm3/1000 strokes	: 43.5
	1000	Tolerance	. 0.5
Rated speed rpm :	1000 +	cm3/1000 strokes	: +- 0.5
Ref. pressure ALDA / ADA hPa :	4500	Check tolerance	
ALDA / ADA hPa :	1500 +	cm3/1000s.	: +- 1.5
rack travel mm :		Spreed	
Tolerance mm :	+ 0.20 +	Tolerance	2.5
	†	cm3/1000 strokes	: 2.5
MEASUREMENT	†	Check tolerance	7.0
	1000	cm3/1000s.	: 3.0
	1000 +		
Ref. pressure	†	Ref. pressure	4488
ALDA / ADA hPa :	1100 +	ALDA / ADA hPa	
rack travel mm :		Rated speed rpm	: 1000
Tolerance mm :	+ 0.10 +	Del. quantity	
	+	cm3/1000 strokes	: 43.5
Ref. pressure	+	Tolerance	
ALDA / ADA hPa :	750 +	cm3/1000 strokes	: ← 0.5
rack travel mm :	-4.40 +	Check tolerance	
Tolerance mm :	+ 0.20 +	cm3/1000s.	: +- 1.5
	†	Spreed	
	+	Tolerance	
	+	cm3/1000 strokes	
FUEL DELIVERY CHARAC	TERISTICS +	Check tolerance	
	+	cm3/1000s.	: 3.0
Ref. pressure	+		
ALDA / ADA hPa :	1700 +		
Rated speed rpm :	1700 +		
Del. quantity	+	HIGH IDLE	
cm3/1000 strokes :	54.3		
Tolerance	+	Ref. pressure	
cm3/1000 strokes :	+ 0.8 +	ALDA / ADA hPa	
Check tolerance	+	Rated speed rpm	
cm3/1000s. :	+ 1.8 +	rack travel mm	
Spreed	+	Tolerance mm	: +- 0.20
Tolerance	+	Del. quantity	
cm3/1000 strokes :	2.5	cm3/1000 strokes	: 28.4
Check tolerance	+	Tolerance	
cm3/1000s. :	3.0	cm3/1000 strokes	: +- 2.0
	+	Check tolerance	
Ref. pressure	+	cm3/1000s.	: +- 3.0
ALDA / ADA hPa :	1700 +	Spreed	
Rated speed rpm :	2000 +	Tolerance	
Spreed	+	cm3/1000 strokes	: 2.5
Del. quantity	+	Check tolerance	
cm3/1000 strokes :	52.7	cm3/1000S.	: 3.0
Tolerance	+		
cm3/1000 strokes :	← 1.0 +		
Check tolerance	+	STARTING FUEL DEL	IVERY
cm3/1000s. :	+- 2.0 		
Spreed	+	Rated speed rpm	: 100
Tolerance	+	rack travel mm	
cm3/1000 strokes :	2.5	Tolerance mm	: +- 1.50
Check tolerance	+	Del. quantity	
cm3/1000s. :	3.0	cm3/1000 strokes	: 58.3
	+	Tolerance	
Ref. pressure	+	cm3/1000 strokes	: +- 4.0
ALDA / ADA hPa :	1100	Check tolerance	
Rated speed rpm :		cm3/1000s.	: +- 5.0
• • • • • • • • • • • • • • • • • • •	•		

Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000S.

: 6.0

LOW IDLE

Rated speed rpm : 400

Del. quantity

cm3/1000 strokes : 7.7 Check tolerance

cm3/1000s.

: +- 2.3

Spreed

Check tolerance cm3/1000s.

: 1.5

control lever

position degree : > 42.00

control lever

position degree : < 39.50

SETTING PNEUMATIC FAST IDLE (PLA)

(PLA) POSITION

control lever

position degree : 8.0

tolerance degree : +- 2.0

Rated speed rpm : 450

Rack travel in mm :

7.60

Tolerance mm : + 0.80

Del. quantity

cm3/1000 strokes : 17.2

Tolerance

cm3/1000 strokes : +- 3.5

Check tolerance

cm3/1000S. : + 4.5 Vacuum hPa : 450.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm :

400

Vacuum hPa : -450.0

H13

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.06.98 Test oil : ISO 4113

Combination No. : 0 401 846 849

Injection pump

Pump designation : PE6P12OA32ORS3196

EP type number : 0 411 826 763

Governor

Governer design. : RQV200...1100PA729

: -1

Governer no. : 0 421 813 470

Cust. part No. :

Customer-spec. information Customer : SCANIA Motor : DS9 06

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration

damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05

Check

: **←** 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : **←** 0.75

Start of delivery mark

: **←** 0.50 Tolerance

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rated speed rpm : 350 guide sleeve
travel mm : 2.30
Tolerance mm : + 0.30
Rated speed rpm : 1250
guide sleeve travel mm : 9.40
Tolerance mm : + 0.20
Toterance min : += 0.20
GUIDE SLEEVE POSITION
33131 321242 7 33171314
control lever
position degree : - 1
Rated speed rpm : 1120
· · ·
Rack travel in mm : 16.50
Tolerance mm : + 1.30
FULL LOAD DELIVERY AT FULL LOAD STOP
700
Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm3/1000 strokes : 134.0
Tolerance
cm3/1000 strokes : + 1.0
Check tolerance cm3/1000s. : +- 4.0
Spreed : +- 4.0
Tolerance
cm3/1000 strokes : 5.0
Check tolerance
cm3/1000s. : 8.0
(1137 14603).
CONTROL LEVER
control lever
position degree : 59.0
tolerance degree : +- 4.0
control lever
position degree : 114.0
tolerance degree : +- 4.0
2475
RATED SPEED
rack travel mm : 9.40 Rated speed rpm : 1145
wares speed the 1 11/5
Tolerance 1/min : +- 5
Tolerance 1/min : +- 5 Check
Tolerance 1/min : +- 5
Tolerance 1/min : +- 5 Check

Rated speed rpm : 1265 Tolerance 1/min : +- 15 Check speed 1/min : +- 20 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1350 LOW IDLE

control lever position degree : 64.0 tolerance degree : + 4.0

control lever

position degree : 9.0 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 6.20

Testing:

Rated speed rpm : 225 rack travel mm : 5.00 Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 330
Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : rack travel mm : 700 10.45 Tolerance mm : \leftarrow 0.05

Rated speed rpm : 1100 rack travel mm : 10.45 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm : 1100

Del. quantity

cm3/1000 strokes : 149.0

Tolerance

cm3/1000 strokes : +- 4.0

Check tolerance

cm3/1000s. : +- 6.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : +- 0.50 Del. quantity

cm3/1000 strokes : 355.0 Tolerance

cm3/1000 strokes : \leftarrow 20.0

Check tolerance

cm3/1000s. : +- 24.0

LOW IDLE

Rated speed rpm : 225

Rack travel in mm: 5.00 Tolerance mm : ← 0.10 Del. quantity cm3/1000 strokes : 24.0

Tolerance

cm3/1000 strokes : \leftarrow 2.0 Check tolerance

cm3/1000s. : +- 4.0

Spreed Tolerance

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s. 6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 04.06.98 : ISO 4113

Combination No. : 0 402 040 701

Injection pump

Pump designation : PES12P120A920RS3402

EP type number : 0 412 020 703

Governor

Governer design. : RQV350...1400PA1145

Governer no. : 0 421 814 092

Cust. part No. :

Customer-spec. information

Customer : FINCANTIERI

Motor

: 1312MSD

Power KW

: 625.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

208.5

bar Tolerance bar

: +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 3.55

: +- 0.05 Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50

Tolerance mm : + 1.50

: 1-12A-9-4A - 5-8A Firing order

: -11-2A - 3-10A

: - 7

Phasing : 0-45-60-105-120

: -165-180-225-240

: -285-300-345

Tolerance : +- 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 15.30

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes :

288.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: +- 4.0

Spreed		
Tolerance cm3/1000 strokes	: 7.0	
Check tolerance cm3/1000s.	: 11.0	
Pated speed rpm	: 350	
Rated speed rpm	: 350	
Rack travel in mm Tolerance mm Del. quantity	: 8.10 : + 0.10	
cm3/1000 strokes Tolerance	: 39.0	
cm3/1000 strokes Check tolerance	: ← 3.0	
cm3/1000s. Spreed	: +- 6.0	
Tolerance cm3/1000 strokes	: 10.0	
Check tolerance cm3/1000s.	: 14.0	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR		
GUIDE SLEEVE TRAVE	ĒL	
Rated speed rpm guide sleeve	: 1415	
travel mm Tolerance mm	: 8.38 : ← 0.15	
Rated speed rpm	: 350	

guide sleeve

travel mm : 1.56 Tolerance mm : +- 0.20

Rated speed rpm : 915 guide sleeve 5.32 travel mm : **←** 0.25

Tolerance mm

Rated speed rpm : 520 guide sleeve travel mm : 3.41 Tolerance mm : +- 0.25

Rated speed rpm : 1750 quide sleeve

: 11.50 travel mm Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

control lever

position degree : - 1 Rated speed rpm : 1465

Rack travel in mm: 14.30 Tolerance mm : \leftarrow 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 750 Aneroid pressure hPa 1000 Del. quantity cm3/1000 strokes : 288.0 Tolerance cm3/1000 strokes : +- 1.0

Check tolerance : +- 4.0 cm3/1000s.

Spreed Tolerance

cm3/1000 strokes : 7.0 Check tolerance cm3/1000S. : 11.0

CONTROL LEVER

control lever position degree : 118.0 tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 14.30 Rated speed rpm : 1395 Tolerance 1/min : +-

rack travel mm : 4.0 Rated speed rpm : 1600 4.00 Tolerance 1/min : ← 15

rack travel mm : 1.00 Tolerance mm : + 0.70 Rated speed rpm : 1750

LOW IDLE

control lever

position degree : 73.0 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 250 CRT mm min. :> 10.00

Testing:

350 Rated speed rpm : rack travel mm : 8.10 : + 0.10 Tolerance mm

Rated speed rpm : 525

TORQUE CONTROL 750 Rated speed rpm : rack travel mm : 15.30 : +- 0.05 Tolerance mm

Rated speed rpm : 1350 rack travel mm : 15.30
Tolerance mm : + 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500 Pressure hPa : 1000 rack travel mm : 15.35 Tolerance mm : + 0.05

500 Rated speed rpm : Pressure hPa : rack travel mm : 10.80 : +- 0.20 Tolerance mm

MEASUREMENT

Rated speed rpm : 500

: 400 Pressure hPa 12.00 rack travel mm : : +- 0.20 Tolerance mm

Pressure hPa : 500 13.75 rack travel mm : Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1000 hPa Rated speed rpm : 1350 Del. quantity

cm3/1000 strokes : 278.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : **←** 6.0

Aneroid pressure

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 139.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

ESS test: With 24 V solenoid activated, rack must reach start position in max. control lever setting.

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : + 0.75

Del. quantity

cm3/1000 strokes : 420.0

Tolerance

cm3/1000 strokes : + 15.0

Check tolerance

: +- 19.0 cm3/1000s.

LOW IDLE

Delivery for standard plunger/barrel assemblies.

Zero delivery for shutoff assemblies (refer to cam sequence).

Rated speed rpm :

Rack travel in mm : 8.10 Tolerance mm : +- 0.10 Del. quantity

cm3/1000 strokes : 39.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : +- 6.0

Spreed

Tolerance

cm3/1000 strokes : 10.0

Check tolerance cm3/1000s. : 14.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 10.06.98

Test oil

: ISO 4113

Combination No. : 0 402 046 862

Injection pump

Pump designation : PES6P120A320RS3337

EP type number : 0 412 026 770

Governor

Governer design. : RQV300...1250PA1149K

Governer no.

: 0 421 815 416

Cust. part No. : CCEP 5141A 66-218

Customer-spec. information

Customer : RENAULT V.I.

Motor

: MIDR 06-02-26 V4

Power KW

: 133.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

: +-2.0

Overflow valve : 2 417 413 084

Inlet press. bar : 2.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar

: +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : x length mm :

2.0

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm

: 4.10

Tolerance mm

: +- 0.05

Check

tolerance mm

: +- 0.10

Rack travel in mm : 10.50

Tolerance mm : \leftarrow 1.50

Firing order

: 1-5-3-6-2-

Phasing

: 0-60-120-180-240

: -300

Tolerance

: **←** 0.50

Check

tolerance °NW

: + - 0.75

Start of delivery mark

°NW after s.o.d. : −0.18

Tolerance

: + - 0.50

Check

tolerance °NW

: **←** 0.75

Barrel no.

1

Beginning of delivery differende

betw. rack trav.

21.00

and maximum rack

travel

10.50

Difference ° CS :

2.00

CRT ZERO POSITION

		† Tolerance mm	: +- 0.20
Rack travel in mm : Tolerance mm : -		Rated speed rpm guide sleeve	: 905
		+ travel mm	: 6.54
BASIC SETTING		Tolerance mm	: - 0.25
PHOTO SETTING		Rated speed rpm	: 381
Rated speed rpm :	1250	guide sleeve travel mm	: 2.38
Del. quantity		+ Tolerance mm	: ← 0.25
cm3/1000 strokes :	148.0	+ Rated speed rpm	: 431
Tolerance		+ guide sleeve	
cm3/1000 strokes : +	⊢ 1.0	+ travel mm	: 2.98
<u></u>		† Tolerance mm	: +- 0.25
Check tolerance		†	F70
cm3/1000\$. : +	 4.0	+ Rated speed rpm	: 530
beeng		+ guide sleeve + travel mm	: 3.77
Spreed		+ Tolerance mm	
Tolerance		1 Toterance imi	. +- 0.25
cm3/1000 strokes :	5.0	Rated speed rpm	: 1580
5	2.0	guide sleeve	,500
Check tolerance		+ travel mm	: 13.50
cm3/1000s. :	9.0	+ Tolerance mm	: ← 0.50
		+	
		+	
	700	+ GUIDE SLEEVE POSI	TION
Rated speed rpm :	300	†	
Rack travel in mm :	-6 10	T control lever	
Tolerance mm : +		+ position degree	: - 1
Del. quantity	33	+ Rated speed rpm	
cm3/1000 strokes :	35.0	+	
Tolerance		+ Rack travel in mm	: 10.50
cm3/1000 strokes : +	⊢ 2.0	+ Tolerance mm	: +- 1.30
Check tolerance		+	
	- 5.0	51111 1 040 051 71/50	V 47 5111 1 040 0700
Spreed		+ FULL LOAD DELIVER	Y AT FULL LOAD STOP
Tolerance cm3/1000 strokes :	8.0	Rated speed rpm	. 1250
Check tolerance	0.0	Aneroid pressure	. 1230
cm3/1000s. :	12.0	+ hPa	: 1000
	.2.0	+ Del. quantity	, , , , , , , , , , , , , , , , , , , ,
		+ cm3/1000 strokes	: 148.0
(B) SETTING OF INJECT	ION PUMP	+ Tolerance	
WITH GOVERNOR		+ cm3/1000 strokes	: ← 1.0
		+ Check tolerance	
CUIDE OF FENE TONIE		+ cm3/1000s.	: +- 4.0
GUIDE SLEEVE TRAVEL		+ Spreed + Tolerance	
Rated speed rpm :	1346	+ cm3/1000 strokes	: 5.0
guide sleeve	13-70	Check tolerance	. 5.0
travel mm :	10.55	+ cm3/1000s.	: 9.0
	- 0.15	+	
		+	
Rated speed rpm :	300	+	
guide sleeve		+ CONTROL LEVER	
travel mm :	1.31	+	

control lever position degree tolerance degree	: 297.0 : + 4.0
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 1330
rack travel mm Rated speed rpm Tolerance 1/min	: 1425
rack travel mm Tolerance mm Rated speed rpm	: + 0.50
LOW IDLE	
control lever position degree tolerance degree	: 244.0 : + 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 200
CRT mm min.	: < -5.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : -6.10 : +- 0.10
Rated speed rpm	: 400
TORQUE CONTROL Rated speed rpm	: 1250
Rated speed rpm rack travel mm Tolerance mm	: 850 : -1.35 : +- 0.15
Rated speed rpm rack travel mm Tolerance mm	: 350 : -1.60 : + 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	

Rated speed rpm Pressure hPa	: 1250 : 1000
Rated speed rpm	
Pressure hPa rack travel mm Tolerance mm	: -1.80 : + 0.20
MEASUREMENT	
Rated speed rpm	: 1250
Pressure hPa rack travel mm Tolerance mm	: 160 : −1.25 : ← 0.10
Pressure hPa rack travel mm	: 280 : - 0.20
Tolerance mm	: ← 0.05
Start interlock	
Rated speed rpm	: > 175
Rated speed rpm	: < 240
Check speed 1/min	: > 155
Check speed 1/min	: < 260
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa	: 1000
Rated speed rpm Del. quantity	: 850
cm3/1000 strokes Tolerance	: 120.0
cm3/1000 strokes Check tolerance	: +- 3.0
cm3/1000s.	: +- 6.0
rack travel mm Tolerance mm	: -1.60 : + 0.20
Ananaid process	
Aneroid pressure hPa	: – : 1250
Rated speed rpm Del. quantity	
cm3/1000 strokes Tolerance	: 113.0

1.0

: **←** 4.0

Tolerance

cm3/1000s.

cm3/1000 strokes : +-

Check tolerance

SETTING

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 108.0

Tolerance

cm3/1000 strokes : \leftarrow 15.0

Check tolerance

cm3/1000s. : \leftarrow 19.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : −6.10 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 35.0

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000s. : \leftarrow 5.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 09.06.98 : ISO 4113

Combination No. : 0 402 048 708

Injection pump

Pump designation : PES8P120A320RS3401

EP type number : 0 412 028 709

Governor

Governer design. : RQV350...1400PA1028

Governer no. : 0 421 813 987

Cust. part No. :

Customer-spec. information

Customer : FINCANTIERI

Motor

: 1308 V

Power KW

: 500.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

208.5

Tolerance bar : ← 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter :

3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : \leftarrow 1.0

Prestroke mm : 3.55
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : ← 1.50

Firing order : 1-2A- 7-8A - 4-5A

: - 6

Phasing : 0-45-90-135-180

: -225-270-315 : **←** 0.50

Tolerance Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 15.35 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 288.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000S.

: +- 4.0

Spreed

Tolerance cm3/1000 strokes	5.0	control lever position degree : - 1
Check tolerance cm3/1000s.	: 9.0	Rated speed rpm : 1465
		Rack travel in mm : 14.30 Tolerance mm : +- 1.30
Rated speed rpm	: 350	I
		FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in m		†
Tolerance mm	: ← 0.10	Rated speed rpm : 750
Del. quantity cm3/1000 strokes	: 39.0	+ Aneroid pressure + hPa : 1000
Tolerance	. 37.0	Del. quantity
cm3/1000 strokes	: +- 3.0	- cm3/1000 strokes : 288.0
Check tolerance		+ Tolerance
cm3/1000S.	: ← 6.0	+ cm3/1000 strokes : $+$ 1.0
Spreed		+ Check tolerance
Tolerance		+ cm3/1000s. : +- 4.0
cm3/1000 strokes Check tolerance	: 0.0	+ Spreed + Tolerance
	: 12.0	cm3/1000 strokes : 5.0
U	, ,,,,,	- Check tolerance
		+ cm3/1000s. : 9.0
(B) SETTING OF I	NJECTION PUMP	†
WITH GOVERNOR		†
		CONTROL LEVER
GUIDE SLEEVE TRA	VEL	- CONTINUE CEVEN
		+ control lever
Rated speed rpm	: 1415	position degree : 118.0
guide sleeve	. 0.70	tolerance degree : +- 4.0
travel mm Tolerance mm	: 8.38 · - 0.15	RATED SPEED
rocerance min	. += 0.15	rack travel mm : 14.30
Rated speed rpm	: 350	Rated speed rpm : 1395
guide sleeve		+ Tolerance 1/min : +- 5
travel mm	: 1.56	†
Tolerance mm	: +- 0.20	+ rack travel mm : 4.00
Rated speed rpm	. 015	+ Rated speed rpm : 1600 + Tolerance 1/min : +- 15
guide sleeve	; 7 13	T Toterance Dimin . +- 15
travel mm	: 5.32	+ rack travel mm : 0.85
travel mm Tolerance mm	: +- 0.25	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1750
		+ Rated speed rpm : 1750
Rated speed rpm	: 520	†
guide sleeve	. 7/1	†
travel mm Tolerance mm	: 3.41 : 0.25	T
roterance mm	, - 0.25	T LOW IDLE
Rated speed rpm	: 1750	1
auide sleeve		+
travel mm	: 11.50	+ control lever
Tolerance mm	: ← 0.50	position degree : 73.0
		tolerance degree : +- 4.0
GUIDE SLEEVE POST	TTTON	Setting point w/out bumper spring
		1 Social barrie woods bumber obtiling

Rated speed rpm

250

CRT mm min.	: > 10.97
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 8.10 : + 0.10
Rated speed rpm	: 525
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 15.35
Rated speed rpm rack travel mm Tolerance mm	: 1350 : 15.30 : ← 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1000 : 15.35 : +- 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: -
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 400 : 12.00 : +- 0.20
Pressure hPa rack travel mm Tolerance mm	: 500 : 13.75 : + 0.05
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 270
Check speed 1/min Check speed 1/min	: > 80 : < 290

FUEL DELIVERY CHARACTERISTICS				
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1000 : 1350			
cm3/1000 strokes Tolerance	: 278.0			
cm3/1000 strokes	: ← 3.0			
Check tolerance cm3/1000s.	: +- 6.0			
Aneroid pressure	· _			
Rated speed rpm Del. quantity	: 500			
cm3/1000 strokes	: 139.0			
Tolerance cm3/1000 strokes Check tolerance	: 1.0			
cm3/1000s.	: ← 4.0			
 				
STARTING FUEL DEL	IVERY			
Rated speed rpm rack travel mm Tolerance mm	: 100 : 20.25 : +- 0.75			
Del. quantity cm3/1000 strokes	: 420.0			
Tolerance cm3/1000 strokes	: 15.0			
Check tolerance cm3/1000s.	: ← 19.0			
LOW IDLE				
Delivery for standard plunger/barrel assemblies. Zero delivery for shutoff assemblies (refer to cam sequence).				
Rated speed rpm	: 350			
Rack travel in mm Tolerance mm Del. quantity	: 8.10 : ← 0.10			
cm3/1000 strokes Tolerance	: 39.0			
cm3/1000 strokes Check tolerance	: +- 3.0			
cm3/1000s.	: ← 6.0			

Spreed Tolerance cm3/1000 strokes :

8.0

Check tolerance cm3/1000s.

12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.06.98 Test oil : ISO 4113

Combination No. : 0 402 076 748

Injection pump

Pump designation : PES6P110A720RS3305

: -1

EP type number : 0 412 016 742

Governor

Governer design. : RSV300...1100P1A555

Governer no. : 0 421 833 379

Cust. part No. : 9271058

Customer—spec. information
Customer : LIEBHERR
Motor : D 926 TI-E A2

Power KW : 210.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40 Tolerance °C : \leftarrow 2.0

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5Tolerance bar : $\leftarrow 0.1$

Overflow quantity

min. l/h : 175 Tolerance l/h : ← 20.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 207.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : \leftarrow 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 990

J01

	1
Rack travel in mm : 12.00	
Tolerance mm : + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity	Rated speed rpm : 990
cm3/1000 strokes : 180.0 -	Aneroid pressure
Tolerance	hPa : 1300 Del. quantity
cm3/1000 strokes : + 1.0	cm3/1000 strokes : 180.0
Charle Antonome	Tolerance
Check tolerance	cm3/1000 strokes : +- 1.0 Check tolerance
	cm3/1000s. : +- 3.5
Spreed	Spreed Tolerance
Tolerance	cm3/1000 strokes : 4.0
cm3/1000 strokes : 4.0 -	Check tolerance
Check tolerance	cm3/1000s. : 7.5
cm3/1000S. : 7.5	
	CONTROL LEVER
1	}
Rated speed rpm : 400	control lever
Rack travel in mm : 4.00	position degree : 104.0 tolerance degree : +- 4.0
Tolerance mm : + 0.10	- Coccianos degree 1.
Del. quantity - cm3/1000 strokes : 26.0 -	ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : 26.0 - Tolerance -	ASSEMBLI GOVERNOR SETTING
$cm3/1000$ strokes : \leftarrow 3.0	Rated speed rpm : 1027
Check tolerance - cm3/1000s. : ← 5.5	- Tolerance 1/min : +- 1 - rack travel mm : 11.00
Spreed -	Tack travet and . 17.00
Tolerance -	Rated speed rpm : 1081
cm3/1000 strokes : 4.5 Check tolerance	- Tolerance 1/min : +- 4 - rack travel mm : 4.00
cm3/1000s. : 7.5	•
+	rack travel mm : 0.85
(B) SETTING OF INJECTION PUMP	- Tolerance mm : +- 0.55 - Rated speed rpm : 1300
WITH GOVERNOR	
	- - Rated speed rpm : 1028
	Tolerance 1/min : +- 1
GUIDE SLEEVE POSITION	rack travel mm : 11.00
7	- Rated speed rpm : 1082
control lever	- Tolerance 1/min : +- 4
position degree : - 3 Rated speed rpm : 800	rack travel mm : 4.00
+	rack travel mm : 0.85
Rack travel in mm: 0.50	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1300
Tolerance mm : +- 0.20	- kated speed rpm : 1500 -
governor spring	0.000
pre-tension	- Rated speed rpm : 1029 - Tolerance 1/min : +- 1
Total Sections A. F. 15	- rack travel mm : 11.00
+	•

Rated speed rpm	: 1083
Tolerance 1/min	: +- 4
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: +- 0.55
Rated speed rpm	: 1300
Rated speed rpm	: 1030
Tolerance 1/min	: ← 1
rack travel mm	: 11.00
Rated speed rpm	: 1084
Tolerance 1/min	: +- 4
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated sp ee d rpm	: 1300
Rated speed rpm	: 1031
Tolerance 1/min	: +- 1
rack travel mm	: 11.00
Rated speed rpm	: 1085
Tolerance 1/min	: +- 4
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: +- 0.55
Rated speed rpm	: 1300
Rated speed rpm	: 1032
Tolerance 1/min	: +- 1
rack travel mm	: 11.00
Rated speed rpm	: 1086
Tolerance 1/min	: ← 4
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: +- 0.55
Rated speed rpm	: 1300
LOW IDLE	
control lever position degree tolerance degree	: 76.0 : +- 4.0
Setting point w/ou	ut bumper spring

Testing: Rated speed rpm : 400 rack travel mm : 4.00 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 490 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 990 rack travel mm : 12.00 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 12.00 Tolerance mm : + 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 550 Pressure hPa : 1300 rack travel mm : 14.00 Tolerance mm : + 0.05

Pressure hPa : 1300 rack travel mm : 14.00 Tolerance mm : + 0.05 Rated speed rpm : 550 Pressure hPa : - 10.40 Tolerance mm : + 0.15 MEASUREMENT Rated speed rpm : 550 Pressure hPa : 750 rack travel mm : 11.90 Tolerance mm : + 0.05 Pressure hPa : 675 rack travel mm : 11.40 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1300 Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 205.0

Rated speed rpm : 400 rack travel mm : 3.50 Tolerance mm : +-- 0.10

Tolerance cm3/1000 strokes : ← 3.0 Check tolerance cm3/1000s. : ← 6.0

Aneroid pressure

hPa : Rated speed rpm : 550
Del. quantity
cm3/1000 strokes : 170.0

Tolerance cm3/1000 strokes : ← 1.0

Check tolerance

cm3/1000s. : +- 3.5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 150.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0

LOW IDLE

Rated speed rpm : 400

Rack travel in mm : 4.00
Tolerance mm : + 0.10
Del. quantity
cm3/1000 strokes : 26.0
Tolerance
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000s. : + 5.5
Spreed
Tolerance

cm3/1000 strokes : 4.5
Check tolerance
cm3/1000S. : 7.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.06.98 Test oil : ISO 4113

Combination No. : 0 402 076 748H

Injection pump

Pump designation : PES6P110A720RS3305

: -1

EP type number : 0 412 016 742

Governor

Governer design. : RSV300...1100P1A555

Governer no. : 0 421 833 379

Cust. part No. : 9271056

Customer-spec. information Customer : LIEBHERR
Motor : D 926 TI-E A2
Power KW : 172.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity
min. l/h : 175
Tolerance l/h : + 10.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

Tolerance bar : + 1.5

: 207.5

J05

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter :

2.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.20 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

: +- 0.75 tolerance °NW

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 10.95

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 161.0	+ Aneroid pressure + hPa : 1300 + Del. quantity
Tolerance cm3/1000 strokes : + 1.0	cm3/1000 strokes : 161.0 Tolerance
Check tolerance cm3/1000s. : +- 3.5	cm3/1000 strokes : +- 1.0 + Check tolerance + cm3/1000s. : +- 3.5
Spreed	Spreed Tolerance
T alan and	cm3/1000 strokes : 4.0
Tolerance cm3/1000 strokes : 4.0	Check tolerance cm3/1000s. : 7.5
Check tolerance	
cm3/1000s. : 7.5	CONTROL LEVER
	control lever
Rated speed rpm : 400	position degree : 97.0 tolerance degree : +- 4.0
Rack travel in mm: 4.90	toterance degree . += 4.5
Tolerance mm : + 0.10	RATED SPEED
Del. quantity	rack travel mm : 9.95
cm3/1000 strokes : 36.0	+ Rated speed rpm : 935 - Tolerance 1/min : +- 5
Tolerance - cm3/1000 strokes : + 3.0	ioterance i/min : +- 5
Check tolerance	rack travel mm : 4.00
cm3/1000s. : +- 5.5	Rated speed rpm : 970
Spreed	Tolerance 1/min : + 15
Tolerance	1
cm3/1000 strokes : 4.5 - Check tolerance -	+ rack travel mm : 0.85 + Tolerance mm : + 0.55
cm3/1000s. : 7.5	+ Rated speed rpm : 1100
	- Nacca opeca i piii . Tioo
	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 985
WITH GOVERNOR -	Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION -	
- -	LOW IDLE
control lever	
position degree : - 3 - Rated speed rpm : 800 -	control lever position degree : 74.0
Nated Speed I Mill . OOO	tolerance degree : + 4.0
Rack travel in mm : 0.50 - Tolerance mm : +- 0.20 -	Setting point w/out bumper spring
governor spring -	Rated speed rpm : 400
pre-tension -	rack travel mm : 4.40
click setting x : 4.00	Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Testing:
TOLE LOAD DELIVERY AT FOLE LOAD STOP	Rated speed rpm : 400
Rated speed rpm : 900	rack travel mm : 4.90
· · · · · · · · · · · · · · · · · · ·	Tolerance mm : +- 0.10

rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 510 : + 30
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 900 : 10.95 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 500 : 10.95 : ← 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 550 : 1300 : 14.00 : ← 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 550 : - : 9.90 : +- 0.10
MEASUREMENT	
Rated speed rpm	: 550
Pressure hPa rack travel mm Tolerance mm	: 640 : 10.70 : +- 0.05
Pressure hPa rack travel mm Tolerance mm	: 590 : 10.20 : + 0.10
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1300 : 500
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 181.0 : + 2.0
cm3/1000s.	: +- 5.0

Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	+-	500 159.0 1.0 3.5		
STARTING FUEL DELI	ΙVΕ	ERY			
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		+- +-			
LOW IDLE		<u> </u>	· · · · · ·	 	
Rated speed rpm	:		400		
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	• • • • • • • • • • • • • • • • • • • •	+-	4.90 0.10 36.0 3.0 5.5 4.5 7.5		

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.06.98 Test oil : ISO 4113

Combination No. : 0 402 076 748I

Injection pump

Pump designation : PES6P110A720RS3305

.

EP type number : 0 412 016 742

Governor

Governer design. : RSV300...1100P1A555

Governer no. : 0 421 833 379

Cust. part No. : 9880883

Customer—spec. information Customer : LIEBHERR

Motor : D 926 TI-E A2

Power KW : 210.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5Tolerance bar : \leftarrow 0.1

Overflow quantity

min. l/h : 175 Tolerance l/h : ← 20.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 207.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.20 Tolerance mm : ← 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 990

Rack travel in mm : 12.00

Tolerance mm : + 0.05

J08

But minutation	Amendal management
Del. quantity cm3/1000 strokes : 180.0	Aneroid pressure hPa : 1300 Del. quantity
Tolerance cm3/1000 strokes : + 1.0	cm3/1000 strokes : 180.0 Tolerance
Check tolerance	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000s. : +- 3.5	cm3/1000S. : +- 3.5 Spreed
Spreed	Tolerance cm3/1000 strokes : 4.0
Tolerance cm3/1000 strokes : 4.0	Check tolerance cm3/1000s. : 7.5
Check tolerance cm3/1000s. : 7.5	CONTROL LEVER
Rated speed rpm : 400	<pre>control lever position degree : 104.0 tolerance degree : +- 4.0</pre>
Rack travel in mm: 4.00 + Tolerance mm: + 0.10 +	
Del. quantity cm3/1000 strokes : 26.0	ASSEMBLY GOVERNOR SETTING
Tolerance cm3/1000 strokes : + 3.0	Rated speed rpm : 1027 Tolerance 1/min : +- 1
Check tolerance cm3/1000s. : + 5.5	rack travel mm : 11.00
Spreed Tolerance	Rated speed rpm : 1081 Tolerance 1/min : +- 4
cm3/1000 strokes : 4.5 Check tolerance	rack travel mm : 4.00
cm3/1000s. : 7.5	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1300
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	THE COLUMN TO TH
+	Rated speed rpm : 1028 Tolerance 1/min : +- 1 rack travel mm : 11.00
GUIDE SLEEVE POSITION	
control lever	Rated speed rpm : 1082 Tolerance 1/min : +- 4 rack travel mm : 4.00
position degree : -3 Rated speed rpm : 800	rack travel mm : 0.85 Tolerance mm : + 0.55
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Rated speed rpm : 1300
governor spring + pre-tension +	Rated speed rpm : 1029 Tolerance 1/min : +- 1
click setting x : 4.75	rack travel mm : 11.00
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 1083 Tolerance 1/min : +- 4
Rated speed rpm : 990	rack travel mm : 4.00
+	rack travel mm : 0.85

Tolerance mm	: ← 0.55
Rated speed rpm	: 1300
Rated speed rpm	: 1030
Tolerance 1/min	: ← 1
rack travel mm	: 11.00
Rated speed rpm Tolerance 1/min rack travel mm	: +- 4
rack travel mm	: 0.85
Tolerance mm	: ← 0.55
Rated speed rpm	: 1300
Rated speed rpm	: 1031
Tolerance 1/min	: ← 1
rack travel mm	: 11.00
Rated speed rpm	: 1085
Tolerance 1/min	: +- 4
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: +- 0.55
Rated speed rpm	: 1300
Rated speed rpm	: 1032
Tolerance 1/min	: ← 1
rack travel mm	: 11.00
Rated speed rpm	: 1086
Tolerance 1/min	: +- 4
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: ← 0.55
Rated speed rpm	: 1300
LOW IDLE	
control lever position degree tolerance degree	: 76.0 : +- 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 400
rack travel mm	: 3.50
Tolerance mm	: +- 0.10
•	

Tolerance mm	: +- 0.10
rack travel mm Rated speed rpm Tolerance 1/min	
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 500 : 12.00 : ← 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 550 : 1300 : 14.00 : +- 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 550 : - : 10.40 : + 0.15
MEASUREMENT	
Rated speed rpm	: 550
Pressure hPa rack travel mm Tolerance mm	: 775 : 11.90 : +- 0.05
Pressure hPa rack travel mm Tolerance mm	: 675 : 11.40 : ← 0.10
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 1300 : 500 : 205.0
Tolerance	· +- 3 n

 $cm3/1000 strokes : \leftarrow 3.0$

Check tolerance cm3/1000s. : +- 6.0

Testing:

Rated speed rpm : 400 rack travel mm : 4.00

Aneroid pressure

hPa Rated speed rpm 500

Del. quantity cm3/1000 strokes :

170.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. 3.5 : +-

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm 20.50 : +- 0.50 Toterance mm

Del. quantity

cm3/1000 strokes : 150.0

Tolerance

cm3/1000 strokes : \leftarrow 10.0

Check tolerance

: + 14.0 cm3/1000s.

LOW IDLE

Rated speed rpm : 400

4.00 Rack travel in mm : Tolerance mm : +- 0.10

Del. quantity

26.0 cm3/1000 strokes :

Tolerance

cm3/1000 strokes : + 3.0

Check tolerance cm3/1000s. : +-5.5

Spreed

Tolerance

4.5 cm3/1000 strokes :

Check tolerance

7.5 cm3/1000S.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 08.06.98 Edition : ISO 4113 Test oil

Combination No. : 0 402 076 748K

Injection pump

Pump designation : PES6P110A720RS3305

: -1

EP type number : 0 412 016 742

Governor

Governer design. : RSV300...1100P1A555

Governer no. : 0 421 833 379

Cust. part No. : 9881130

Customer-spec. information Customer : LIEBHERR

Motor : D 926 TI-E A2 Power KW : 195.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 175
Tolerance l/h : + 10.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar : 207.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.20 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance "NW : \leftarrow 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 990

Rack travel in mm: 11.20

Tolerance mm : +- 0.05

Del. quantity cm3/1300 strokes	: 162.0	‡	Aneroid pressure hPa	: 1300
Tolerance cm3/1000 strokes :	· + 1.0	- ‡	Del. quantity cm3/1000 strokes Tolerance	: 162.0
Check tolerance		- <u>†</u>	cm3/1000 strokes Check tolerance	: +- 1.0
	· 	_	cm3/1000s.	: ← 3.5
Spreed		+	Tolerance cm3/1000 strokes	: 4.0
Tolerance cm3/1000 strokes :	4.0	+	Check tolerance cm3/1000s.	: 7.5
Check tolerance cm3/1000s.	7.5	-	CONTROL LEVER	
		_	control lever	
Rated speed rpm :		‡	position degree tolerance degree	
Rack travel in mm : Tolerance mm : Del. quantity		‡	RATED SPEED rack travel mm	• 10.20
cm3/1000 strokes : Tolerance		Ţ	Rated speed rpm Tolerance 1/min	: 1030
cm3/1000 strokes : Check tolerance			rack travel mm	
Spreed	+- 5.5		Rated speed rpm Tolerance 1/min	
Tolerance cm3/1000 strokes : Check tolerance	4.5		rack travel mm Tolerance mm	: 0.85 : +- 0.55
cm3/1000s. :	7.5		Rated speed rpm	
(B) SETTING OF INJE WITH GOVERNOR	CTION PUMP	+	rack travel mm Rated speed rpm Tolerance 1/min	: 1085
GUIDE SLEEVE POSITI	ON!	<u>†</u>		
GOIDE SECEVE 103111	OI V	$\frac{1}{1}$	LOW IDLE	
control lever position degree : Rated speed rpm :	- 3 800	1	control lever position degree tolerance degree	: 77.0 : +- 4.0
Rack travel in mm : Tolerance mm :		+	Setting point w/or	
governor spring pre-tension click setting x :	4.75	+	Rated speed rpm rack travel mm Tolerance mm	: 400 : 4.40 : +- 0.10
FULL LOAD DELIVERY	AT FULL LOAD STOP	<u> </u>	Testing:	
Rated speed rpm :		+	Rated speed rpm rack travel mm Tolerance mm	: 400 : 4.90 : + 0.10

rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 510 : + 30
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 990 : 11.20 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 500 : 11.20 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1300 : 14.00 : +- 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 10.00 : + 0.10
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 665 : 11.00 : + 0.05
Pressure hPa rack travel mm Tolerance mm	: 600 : 10.50 : ← 0.10
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1300 : 500
Del. quantity cm3/1000 strokes Tolerance	: 186.0
cm3/1000 strokes Check tolerance cm3/1000s.	: + 2.0 : + 5.0

hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - 500 : 158.0 : + 1.0 : + 3.5
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
	. 1 14.0
LOW IDLE	
	: 400
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 400 : 4.90 : +- 0.10
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: 400 : 4.90 : ← 0.10 : 36.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 08.06.98 Edition : ISO 4113 Test oil

Combination No. : 0 402 076 748N

Injection pump

Pump designation : PES6P110A720RS3305

EP type number : 0 412 016 742

Governor

Governer design. : RSV300...1100P1A555

Governer no. : 0 421 833 379

Cust. part No. : 9881243

Customer-spec. information Customer : LIEBHERR

: D 926 TI-E A2 Motor

Power KW : 183.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

: 40 : +- 2.0 temp. °C Tolerance °C

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 175
Tolerance l/h : +- 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar : 207.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.20Tolerance mm : $\leftarrow 0.05$

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

: **←** 0.75 tolerance °NW

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 990

Rack travel in mm: 10.95

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes :	156.0	Aneroid pressure hPa Del. quantity	: 1200
Tolerance cm3/1000 strokes : +-	1.0	cm3/1000 strokes Tolerance	: 156.0
Check tolerance		cm3/1000 strokes Check tolerance	: +- 1.0
	3.5	cm3/1000s. Spreed	: +- 3.5
Spreed	‡	Tolerance cm3/1000 strokes	: 4.0
Tolerance cm3/1000 strokes :	4.0	Check tolerance cm3/1000S.	: 7.5
Check tolerance cm3/1000s. :	7.5	CONTROL LEVER	
	+		
Rated speed rpm :	400	control lever position degree tolerance degree	
	4.90 0.10	RATED SPEED	
Del. quantity	1	rack travel mm	: 9.95
cm3/1000 strokes :	36.0	Rated speed rpm	
Tolerance cm3/1000 strokes : +-	3.0	Tolerance 1/min	: +- 5
Check tolerance	+	rack travel mm	: 4.00
cm3/1000s. : +-	5.5	Rated speed rpm	: 1075
Spreed Tolerance	Ī	Tolerance 1/min	: +- 10
cm3/1000 strokes :	4.5	rack travel mm	: 0.85
Check tolerance	7.5	Tolerance mm	: +- 0.55
cm3/1000s. :	(.)	Rated speed rpm	: 1200
	+	rack travel mm	: 4.00
(B) SETTING OF INJECTION	ON PUMP +	Rated speed rpm	: 1085
WITH GOVERNOR	Ī	Tolerance 1/min	: +- 10
	‡		
GUIDE SLEEVE POSITION	+		
	İ	LOW IDLE	
control lever	+		
position degree : -3	~ · · · · · · · · · · · · · · · · ·	control lever	70.0
Rated speed rpm :	800	position degree tolerance degree	
Rack travel in mm :	0.50	totti ainot acgi co	7.0
Tolerance mm : +-	0.20	Setting point w/o	ut bumper spring
governor spring	Ī	Rated speed rpm	: 400
pre-tension	_	rack travel mm	: 4.40
click setting x :	5.00	Tolerance mm	: +- 0.10
	‡	Testing:	
FULL LOAD DELIVERY AT A	FULL LOAD STOP	_	
Ontrol manager of the control of the	1	Rated speed rpm	: 400
Rated speed rpm :	990	rack travel mm Tolerance mm	: 4.90 : +- 0.10

Tolerance mm

: +- 0.10

rack travel mm Rated speed rpm Tolerance 1/min	: 515
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 500 : 10.95 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1200 : 14.00 : + 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 10.00 : + 0.15
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 625 : 10.80 : +- 0.05
Pressure hPa rack travel mm Tolerance mm	: 550 : 10.25 : + 0.10
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1200 : 500
Del. quantity cm3/1000 strokes	: 179.0

3.0

: +- 6.0

Aneroid pressure Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 158.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. :
→ 3.5 STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm : 20.50 : +- 0.50 Tolerance mm Del. quantity cm3/1000 strokes : 150.0 Tolerance cm3/1000 strokes : +- 10.0Check tolerance cm3/1000s. : +- 14.0 LOW IDLE Rated speed rpm : 400 Rack travel in mm: 4.90 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 36.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. 5.5 : +-Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance

End of test specification sheet

cm3/1000s.

7.5

Tolerance

Check tolerance cm3/1000s.

cm3/1000 strokes : +-

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 09.06.98 Test oil : ISO 4113

Combination No. : 0 402 076 801

Injection pump

Pump designation : PES6P120A1320/5RS337

: 2Y EP type number : 0 412 026 793

Governor

Governer design. : RSV350...1050P1A641

Governer no. : 0 421 833 553

Cust. part No. : 1382923

Customer-spec. information

Customer : SCANIA

Motor

: DSI1172A,-C1157A

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration

damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C

: 40

temp. °C : 40Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 104

Opening pressure

bar

: 251.5

Tolerance bar : +- 1.5

x inside diameter :

Outside diameter : 6.0

2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Test lines : 1 680 750 008

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05

Check

tolerance mm : ← 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2 : - 4

Phasing : 0-60-120-180-240

: -300

: **←** 0.30 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance °NW : **←** 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm : 700

1	
Rack travel in mm: 16.75	Rated speed rpm : 700
Tolerance mm : + 0.05	Aneroid pressure
+	hPa : 1500
Del. quantity + cm3/1000 strokes : 263.0 +	Del. quantity cm3/1000 strokes : 263.0
	Tolerance
Tolerance	cm3/1000 strokes : + 1.0
cm3/1000 strokes : + 1.0	Check tolerance cm3/1000s. : +- 4.0
Check tolerance	Spreed
cm3/1000s. : +- 4.0	Tolerance
Spreed	cm3/1000 strokes : 8.0 Check tolerance
Spreed	cm3/1000s. : 12.0
Tolerance	
cm3/1000 strokes : 8.0	
Check tolerance	CONTROL LEVER
cm3/1000s. : 12.0	
	control lever position degree : 33.0
Ţ	tolerance degree : +- 4.0
+	-
Rack travel in mm : 6.00 + Tolerance mm : + 0.20 +	control lever position degree : 83.0
Del. quantity	tolerance degree : +- 4.0
cm3/1000 strokes : 20.0	, and the second
Tolerance + 4.0 +	ASSEMBLY GOVERNOR SETTING
Check tolerance	ASSEMBLE GOVERNOR SELLING
cm3/1000s. : ← 6.0 +	Rated speed rpm : 750
Spreed	rack travel mm : 15.70
Tolerance + cm3/1000 strokes : 5.0 +	Rated speed rpm : 788
Check tolerance	Tolerance 1/min : + 4
cm3/1000s. : 9.0	rack travel mm : 4.00
Ī	rack travel mm : 0.85
(B) SETTING OF INJECTION PUMP	Tolerance mm : +- 0.55
WITH GOVERNOR +	Rated speed rpm : 850
Ī	
+	Rated speed rpm : 751 rack travel mm : 15.70
GUIDE SLEEVE POSITION +	rack travel mm : 15.70
Ī	Rated speed rpm : 789
control lever	Tolerance 1/min : +- 4
position degree : - 3	rack travel mm : 4.00
Rated speed rpm : 800	rack travel mm : 0.85
Rack travel in mm: 0.50	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 850
Tolerance mm : + 0.20	Rated speed rpm : 850
governor spring	
pre-tension +	Rated speed rpm : 752
click setting x : 2.00	rack travel mm : 15.70
	Rated speed rpm : 790
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance 1/min : +- 4

rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	
Rated speed rpm	: 850
Marca opera i piii	. 333
Rated speed rpm	: 753
Rated speed rpm rack travel mm	: 15.70
Rated speed rpm	: 791
Tolerance 1/min	: +- 4
rack travel mm	: +- 4 : 4.00
rack travel mm	: 0.85
Tolerance mm	: 0.85 : ← 0.55
rack travel mm Tolerance mm Rated speed rpm	: 850
Rated speed rpm	: 754
rack travel mm	: 15.70
Rated speed rpm	: 792
Tolerance 1/min	: +- 4
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm Rated speed rpm	: 0.85 : +- 0.55
Rated speed rpm	: 850
Dated aread are	. 755
Rated speed rpm rack travel mm	: 755 : 15.70
Rated speed rpm Tolerance 1/min	: 793
Tolerance 1/min	: +- 4
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: +- 0.55
Rated speed rpm	: 850
TORQUE CONTROL	700
Rated speed rpm	: 700
rack travel mm Tolerance mm	: 16.75 : ← 0.05
roterance mm	. — 0.05
ANEROID/ALTITUDE	
COMPENSATOR TEST	
SETTING	

		500
Rated speed rpm	:	500
Pressure hPa	:	-
rack travel mm	:	13.50
Tolerance mm	: +	- 0.20
MEASUREMENT		

· — · · · — · · — · · — · · · · · · · ·		
Rated speed rpm	: 500	l
Pressure hPa rack travel mm Tolerance mm	: 295 : 14. : + 0.	30
Pressure hPa rack travel mm Tolerance mm	: 640 : 16. : + 0.	00

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure			
hPa	:		_
Rated speed rpm	:		500
Del. quantity			
cm3/1000 strokes	:		188.0
Tolerance			
cm3/1000 strokes	:	+-	1.0
Check tolerance			
cm3/1000s.	:	+	4.0

STARTING FUEL DELIVERY

)
)
)
)
)

End of test specification sheet

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 16.75
Tolerance mm : + 0.05

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.06.98 Test oil : ISO 4113

Combination No. : 0 402 646 670

Injection pump

Pump designation : PE6P120A320RS7438 EP type number : 0 412 626 965

Governor

Governer design. : RQV275...1150PA1296K

Governer no. : 0 421 815 523

Cust. part No. : 1316183

Customer—spec. information Customer : DAF Motor : PF 235 M

Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. l/h : 150 Tolerance l/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 15.0 Tolerance bar : +- 1.0

Prestroke mm : 4.85 Tolerance mm : ← 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance °NW : + 0.75

Start of delivery mark

Tolerance : + 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 850

	1
Rack travel in mm : 13.50 Tolerance mm : + 0.05	Rated speed rpm : 450 guide steeve
Del. quantity cm3/1000 strokes : 259.0	travel mm : 3.85 Tolerance mm : + 0.25
	Rated speed rpm : 1480
Tolerance cm3/1000 strokes : +- 1.0	guide sleeve travel mm : 13.50
	+ Tolerance mm : + 0.50
Check tolerance cm3/1000S. : +- 4.0	GUIDE SLEEVE POSITION
Spreed	GOIDE SEELVE POSITION
Tolerance cm3/1000 strokes : 5.0	control lever position degree : - ? Rated speed rpm : 1321
Check tolerance cm3/1000s. : 9.0	Rack travel in mm: 12.25 Tolerance mm: + 1.30
	+
Rated speed rpm : 275	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 5.00	+ Rated speed rpm : 850
Tolerance mm : + 0.10	+ Aneroid pressure
Del. quantity	+ hPa : 1500
cm3/1000 strokes : 16.0	+ Del. quantity
Tolerance	- cm3/1000 strokes : 259.0
cm3/1000 strokes : +- 3.0	+ Tolerance
Check tolerance	cm3/1000 strokes : +- 1.0
cm3/1000s. : +- 6.0	Check tolerance
Spreed	
Tolerance	Spreed
cm3/1000 strokes : 8.0	+ Tolerance
Check tolerance	+ cm3/1000 strokes : 5.0
cm3/1000s. : 12.0	+ Check tolerance
	+ cm3/1000S. : 9.0
	+
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	+
	+ CONTROL LEVER
	+
GUIDE SLEEVE TRAVEL	+ control lever
	+ position degree : 119.0
Rated speed rpm : 1201	+ tolerance degree : +- 4.0
guide sleeve	+
travel mm : 10.07	+ RATED SPEED
Tolerance mm : +- 0.15	+ rack travel mm : 12.20
	+ Rated speed rpm : 1185
Rated speed rpm : 275	+ Tolerance 1/min : + 5
guide sleeve	+ Check
travel mm : 1.71	+ speed 1/min : + 10
Tolerance mm : + 0.20	1
TOCCI GITIOC TIRIT	rack travel mm : 4.00
Rated speed rpm : 811	Rated speed rpm : 1310
guide steeve	+ Tolerance 1/min : +- 15
travel mm : 6.79	+ Check
Tolerance mm : +- 0.25	+ speed 1/min : +- 20

rack travel mm Tolerance mm Rated speed rpm	: +- 0.70
LOW IDLE	
control lever position degree tolerance degree	: 70.0 : +- 4.0
Setting point w/c	out bumper spring
Rated speed rpm	: 175
CRT mm min.	: > 7.60
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : 5.00 : +- 0.10
Rated speed rpm	: 395
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 850 : 13.50 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 1130 : 13.20 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 1000 : 13.25 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 800 : 13.45 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 650 : 12.70 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 500 : 11.90 : ← 0.10

ANEROID/ALTITUDE	
COMPENSATOR TEST	

SETTING

Rated speed rpm	: 875
Pressure hPa	: 1500
rack travel mm	: 13.50
Tolerance mm	: +- 0.10
Rated speed rpm	: 875
Pressure hPa	: −
rack travel mm	: 9.00
Tolerance mm	: ← 0.10
MEASUREMENT	
Rated speed rpm	: 875
Pressure hPa	: 650
rack travel mm	: 12.70
Tolerance mm	: +- 0.05

Pressure hPa : 350 rack travel mm : 10.60 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure	
hPa	: 1500
Rated speed rpm	: 1130
Del. quantity cm3/1000 strokes	: 232.0
Tolerance	
cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000s.	: +- 5.0
Spreed	. +- 5.0
Tolerance	
cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
Cm3/ 10005.	. 12.0
rack travel mm	: 13.25
rack travel mm Tolerance mm	: 13.25 : + 0.10
Tolerance mm Aneroid pressure hPa	: ← 0.10 : –
Aneroid pressure hPa Rated speed rpm	
Tolerance mm Aneroid pressure hPa	: + 0.10 : -
Aneroid pressure hPa Rated speed rpm Del. quantity	: + 0.10 : - : 600
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: + 0.10 : - : 600
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: + 0.10 : - : 600 : 166.0 : + 1.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: ← 0.10 : − : 600 : 166.0

Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance		
7/40000		42.0

cm3/1000S. : 12.0

LOW IDLE

Rated speed rpm	:		275
Rack travel in mm Tolerance mm Del. quantity		+-	5.00 0.10
	:		16.0
cm3/1000 strokes	:	+-	3.0
Check tolerance cm3/1000S. Spreed	:	+-	6.0
Tolerance cm3/1000 strokes	:		8.0
Check tolerance cm3/1000s.	:		12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 09.06.98 Edition Test oil : ISO 4113

Combination No. : 0 402 646 682

Injection pump

Pump designation : PE6P120A320RS7438 EP type number : 0 412 626 965

Governor

Governer design. : RQV275...1150PA1386K

Governer no. : 0 421 815 563

Cust. part No. : 1349449

Customer-spec. information Customer : DAF

: PF 235 M (flach) Motor

: 235.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : + 2.0 Tolerance °C

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 150
Tolerance L/h : +- 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter:

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 15.0 Tolerance bar : + 1.0

Prestroke mm : 4.85 Tolerance mm : + 0.05

Check

: **←** 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance "NW : + 0.75

Start of delivery mark

: ← 0.10 Tolerance

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm: 13.50

Tolerance mm : \leftarrow 0.05

	- guide sleeve
Del. quantity	- travel mm : 3.40
cm3/1000 strokes : 259.0	Tolerance mm : + 0.25
dia, rood serones . Esr.s	70 001 41100 11411
Tolerance	Rated speed rpm : 1427
cm3/1000 strokes : + 1.0	guide sleeve
CIID/ 1000 Strokes . 1- 1.0	travel mm : 12.00
Charle to Language	
Check tolerance	Tolerance mm : +- 0.25
cm $3/1000$ s. : $+$	4500
	- Rated speed rpm : 1520
Spreed	guide sleeve
	travel mm : 13.50
Tolerance	Tolerance mm : + 0.50
cm3/1000 strokes : 5.0	
Check tolerance	- GUIDE SLEEVE POSITION
cm3/1000s. : 9.0	-
	- Rated speed rpm : 1401
4	- Rack travel in mm : 12.20
Rated speed rpm : 275	- Tolerance mm : + 1.30
	•
Rack travel in mm: 5.00	
Tolerance mm : + 0.10	- FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity	-
cm3/1000 strokes : 16.0	- Rated speed rpm : 850
Tolerance	- Aneroid pressure
cm3/1000 strokes : + 3.0	- hPa : 1500
	- Del. quantity
Check tolerance = 6.0	
	- cm3/1000 strokes : 259.0
Spreed	- Tolerance
Tolerance	- cm3/1000 strokes : +- 1.0
cm3/1000 strokes : 8.0	- Check tolerance
Check tolerance	- cm3/1000S. : + 4.0
cm3/1000s. : 12.0	- Spreed
+	- Tolerance
+	- cm3/1000 strokes : 5.0
(B) SETTING OF INJECTION PUMP	- Check tolerance
WITH GOVERNOR +	- cm3/1000s. : 9.0
+	•
	•
GUIDE SLEEVE TRAVEL	
GUIDE SLEEVE TRAVEL	- CONTROL LEVER
+	- CONTROL LEVER
Rated speed rpm : 1174	•
Rated speed rpm : 1174 guide sleeve	- control lever
Rated speed rpm : 1174 guide sleeve travel mm : 7.43	- - control lever - position degree : 110.0
Rated speed rpm : 1174 guide sleeve	- control lever
Rated speed rpm : 1174 guide sleeve travel mm : 7.43 Tolerance mm : + 0.15	control lever position degree : 110.0 tolerance degree : +- 4.0
Rated speed rpm : 1174 guide sleeve travel mm : 7.43 Tolerance mm : + 0.15 Rated speed rpm : 275	control lever position degree : 110.0 tolerance degree : +- 4.0 RATED SPEED
Rated speed rpm : 1174 guide sleeve travel mm : 7.43 Tolerance mm : + 0.15 Rated speed rpm : 275 guide sleeve	control lever position degree : 110.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 12.20
Rated speed rpm : 1174 guide sleeve travel mm : 7.43 Tolerance mm : + 0.15 Rated speed rpm : 275 guide sleeve travel mm : 1.71	control lever position degree : 110.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 12.20 Rated speed rpm : 1185
Rated speed rpm : 1174 guide sleeve travel mm : 7.43 Tolerance mm : + 0.15 Rated speed rpm : 275 guide sleeve	control lever position degree : 110.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 12.20 Rated speed rpm : 1185 Tolerance 1/min : +- 5
Rated speed rpm : 1174 guide sleeve travel mm : 7.43 Tolerance mm : + 0.15 Rated speed rpm : 275 guide sleeve travel mm : 1.71 Tolerance mm : + 0.20	control lever position degree : 110.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 12.20 Rated speed rpm : 1185 Tolerance 1/min : +- 5 Check
Rated speed rpm : 1174 guide sleeve travel mm : 7.43 Tolerance mm : + 0.15 Rated speed rpm : 275 guide sleeve travel mm : 1.71 Tolerance mm : + 0.20 Rated speed rpm : 940	control lever position degree : 110.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 12.20 Rated speed rpm : 1185 Tolerance 1/min : +- 5
Rated speed rpm : 1174 guide sleeve travel mm : 7.43 Tolerance mm : + 0.15 Rated speed rpm : 275 guide sleeve travel mm : 1.71 Tolerance mm : + 0.20 Rated speed rpm : 940 guide sleeve	control lever position degree : 110.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 12.20 Rated speed rpm : 1185 Tolerance 1/min : +- 5 Check speed 1/min : +- 10
Rated speed rpm : 1174 guide sleeve travel mm : 7.43 Tolerance mm : + 0.15 Rated speed rpm : 275 guide sleeve travel mm : 1.71 Tolerance mm : + 0.20 Rated speed rpm : 940 guide sleeve travel mm : 5.44	control lever position degree : 110.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.20 Rated speed rpm : 1185 Tolerance 1/min : + 5 Check speed 1/min : + 10 rack travel mm : 4.00
Rated speed rpm : 1174 guide sleeve travel mm : 7.43 Tolerance mm : + 0.15 Rated speed rpm : 275 guide sleeve travel mm : 1.71 Tolerance mm : + 0.20 Rated speed rpm : 940 guide sleeve	control lever position degree : 110.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.20 Rated speed rpm : 1185 Tolerance 1/min : + 5 Check speed 1/min : + 10 rack travel mm : 4.00 Rated speed rpm : 1295
Rated speed rpm : 1174 guide sleeve travel mm : 7.43 Tolerance mm : + 0.15 Rated speed rpm : 275 guide sleeve travel mm : 1.71 Tolerance mm : + 0.20 Rated speed rpm : 940 guide sleeve travel mm : 5.44 Tolerance mm : + 0.25	control lever position degree : 110.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.20 Rated speed rpm : 1185 Tolerance 1/min : + 5 Check speed 1/min : + 10 rack travel mm : 4.00 Rated speed rpm : 1295 Tolerance 1/min : + 15
Rated speed rpm : 1174 guide sleeve travel mm : 7.43 Tolerance mm : + 0.15 Rated speed rpm : 275 guide sleeve travel mm : 1.71 Tolerance mm : + 0.20 Rated speed rpm : 940 guide sleeve travel mm : 5.44	control lever position degree : 110.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.20 Rated speed rpm : 1185 Tolerance 1/min : + 5 Check speed 1/min : + 10 rack travel mm : 4.00 Rated speed rpm : 1295 Tolerance 1/min : + 15 Check
Rated speed rpm : 1174 guide sleeve travel mm : 7.43 Tolerance mm : + 0.15 Rated speed rpm : 275 guide sleeve travel mm : 1.71 Tolerance mm : + 0.20 Rated speed rpm : 940 guide sleeve travel mm : 5.44 Tolerance mm : + 0.25	control lever position degree : 110.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.20 Rated speed rpm : 1185 Tolerance 1/min : + 5 Check speed 1/min : + 10 rack travel mm : 4.00 Rated speed rpm : 1295 Tolerance 1/min : + 15

rack travel mm Tolerance mm Rated speed rpm	: 0.70 : ← 0.70 : 1450
LOW IDLE	
control lever position degree tolerance degree	: 73.0 : + 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 175
CRT mm min.	: > 7.60
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : 5.00 : + 0.10
Rated speed rpm	: 395
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 850 : 13.50 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 1130 : 13.20 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 1000 : 13.35 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 800 : 13.45 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 500 : 12.00 : +- 0.10

SETTING

Rated speed rpm	: 875
Pressure hPa	: 1500
rack travel mm	: 13.50
Tolerance mm	: + 0.10
Rated speed rpm	: 875
Pressure hPa	: -
rack travel mm	: 9.00
Tolerance mm	: + 0.10
MEASUREMENT	
Rated speed rpm	: 875
Pressure hPa	: 650
rack travel mm	: 12.70
Tolerance mm	: ← 0.05
Pressure hPa	: 350
rack travel mm	: 10.60
Tolerance mm	: + 0.10

FUEL DELIVERY CHARACTERISTICS

: 1500
: 1130
: 232.0
. 202.0
: +- 2.0
: +- 5.0
0.0
: 8.0
: 12.0
: 13.35
: +- 0.10
: -
: – : 600
: - : 600 : 166.0
: 166.0

Tolerance

cm3/1000 strokes : 8.0 Check tolerance

: 12.0 cm3/1000S.

LOW IDLE

275 Rated speed rpm :

Rack travel in mm : 5.00 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s.

: +- 6.0

Spreed Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 04.06.98 : ISO 4113

Combination No. : 0 402 648 799

Injection pump

Pump designation : PE8P120A320LS7847-2

EP type number : 0 412 628 885

Governor

Governer design. : RQ300/1050PA1030-28

Governer no.

: 0 421 801 778

Cust. part No. : 0260744102

Customer-spec. information Customer : MB-NFZ

Motor : OM442 LA Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

40 temp. °C Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

: **←** 0.1 Tolerance bar

Tolerance l/h: +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar

Tolerance bar : + 1.5

Test lines : 1 680 750 075

K01

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 20.50 Tolerance mm : \leftarrow 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

: 0-45-90-135-180 Phasing

: -225-270-315

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Barrel no. :

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm: 14.80

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 239.0

Tolerance +	guide sleeve
cm3/1000 strokes : + 1.0	travel mm : 4.29 Tolerance mm : +- 0.10
Check tolerance + 4.0 +	Rated speed rpm : 540
Spreed	guide sleeve travel mm : 6.00 Tolerance mm : +- 0.10
Tolerance cm3/1000 strokes : 6.0	Rated speed rpm : 1270
Check tolerance	guide sleeve travel mm : 11.50
cm3/1000s. : 9.0	Tolerance mm : +- 0.50
‡	Rated speed rpm : 828 guide sleeve
Rated speed rpm : 300	travel mm : 6.38 Tolerance mm : + 0.10
Rack travel in mm: 5.50	
Tolerance mm : + 0.10 +	CHARL OF FELE DOCTTAN
Del. quantity + cm3/1000 strokes : 13.0 +	GUIDE SLEEVE POSITION
Tolerance + 3.0 +	control lever
Check tolerance	position degree : 109
cm3/1000s. : +- 6.0 +	Rated speed rpm : 600
Spreed +	
Tolerance + cm3/1000 strokes : 6.0 +	Rack travel in mm : 20.00 Tolerance mm : +- 0.80
cm3/1000 strokes : 6.0 + Check tolerance +	roterance man . + 0.80
~m3/1000c · 10 0 ±	
cm3/1000s. : 10.0 +	FULL LOAD DELIVERY AT FULL LOAD STOP
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 550
+	Rated speed rpm : 550 Aneroid pressure hPa : 1200
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 550 Aneroid pressure
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1104	Rated speed rpm : 550 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve	Rated speed rpm : 550 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : +- 1.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.84	Rated speed rpm : 550 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve	Rated speed rpm : 550 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.84	Rated speed rpm : 550 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.84 Tolerance mm : +- 0.10 Rated speed rpm : 300 guide sleeve	Rated speed rpm : 550 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.84 Tolerance mm : +- 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.94	Rated speed rpm : 550 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.84 Tolerance mm : +- 0.10 Rated speed rpm : 300 guide sleeve	Rated speed rpm : 550 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.84 Tolerance mm : +- 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.94 Tolerance mm : +- 0.10	Rated speed rpm : 550 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.84 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.94 Tolerance mm : + 0.10 Rated speed rpm : 1050	Rated speed rpm : 550 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 9.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.84 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.94 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve guide sleeve	Rated speed rpm : 550 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.84 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.94 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.50	Rated speed rpm : 550 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 9.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.84 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.94 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve guide sleeve	Rated speed rpm : 550 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER control lever
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.84 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.94 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.50	Rated speed rpm : 550 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 9.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.84 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.94 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 732	Rated speed rpm : 550 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER control lever position degree : 99.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.84 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.94 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 732	Rated speed rpm : 550 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER control lever position degree : 99.0 tolerance degree : + 4.0 RATED SPEED
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.84 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.94 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 732	Rated speed rpm : 550 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER control lever position degree : 99.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 13.30
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.84 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.94 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 732 guide sleeve travel mm : 732 guide sleeve travel mm : 6.13	Rated speed rpm : 550 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER control lever position degree : 99.0 tolerance degree : + 4.0 RATED SPEED

		t	400
rack travel mm	: 4.00	+ Rated speed rpm	
Rated speed rpm	: 1190	+ Pressure hPa	: -
Tolerance 1/min	· +- 15	+ rack travel mm	· 11 35
rocerance min		+ Tolerance mm	0.20
	0.75	T Toterance min	. +- 0.20
rack travel mm		†	
Tolerance mm	: ← 0.75	+ MEASUREMENT	
Tolerance mm Rated speed rpm	: 1350	1	
		+ Rated speed rpm	- 400
		nated speed (pin	. 400
		T _	700
		+ Pressure hPa	
		─	
LOW IDLE		+ Tolerance mm	: +- 0.20
		 	
		Pressure hPa	. 450
control lever		+ rack travel mm	
position degree		+ Tolerance mm	: 0.20
tolerance degree	: +- 4.0	+	
		1	
Setting point w/o	ut humber spring	+ Start interlock	
setting point w/o	at pumper spring	T Start intertock	
		T	
Rated speed rpm	: 200	+ Rated speed rpm	: > 100
		+ Rated speed rpm	: > 220
CRT mm min.	: > 7.20	+	
		→ Check	
-			. > 00
Testing:		+ speed 1/min	: > 00
		+ Check	
Rated speed rpm	: 300	+ speed 1/min	: > 240
rack travel mm	5.50	1	
rack travel mm Tolerance mm	· + 0.10	1	
Totel arice han	0.10	FUEL DELIVERY CH	ADACTEDICTICS
	2 00	+ LOET DETTACK! CHI	AKACIEKT2:TC2
rack travel mm	: 2.00	t	
Rated speed rpm	: 415	+	
Rated speed rpm Tolerance 1/min	: +- 20	Aneroid pressure	
		+ hPa	: 1200
		- Rated speed rpm	1050
TORQUE CONTROL			. 1020
1 ()K(3(1)E ()(3/4 K())		+ Del. quantity	
	550		247.0
Rated speed rpm		+ cm3/1000 strokes	: 217.0
		cm3/1000 strokes Tolerance	
Rated speed rpm rack travel mm	: 14.80	cm3/1000 strokes Tolerance	
Rated speed rpm rack travel mm		cm3/1000 strokes Tolerance cm3/1000 strokes	
Rated speed rpm rack travel mm Tolerance mm	: 14.80 : +- 0.05	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: +- 2.0
Rated speed rpm rack travel mm Tolerance mm	: 14.80 : + 0.05 : 1050	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm	: 14.80 : + 0.05 : 1050 : 14.30	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Spreed	: +- 2.0
Rated speed rpm rack travel mm Tolerance mm	: 14.80 : + 0.05 : 1050 : 14.30	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Spreed Tolerance	: + 2.0 : + 5.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 14.80 : + 0.05 : 1050 : 14.30 : + 0.10	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Spreed Tolerance	: + 2.0 : + 5.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 14.80 : + 0.05 : 1050 : 14.30 : + 0.10	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: + 2.0 : + 5.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 14.80 : + 0.05 : 1050 : 14.30 : + 0.10	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Spreed Tolerance cm3/1000 strokes Check tolerance	: + 2.0 : + 5.0 : 8.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 14.80 : + 0.05 : 1050 : 14.30 : + 0.10	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: + 2.0 : + 5.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm	: 14.80 : + 0.05 : 1050 : 14.30 : + 0.10	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Spreed Tolerance cm3/1000 strokes Check tolerance	: + 2.0 : + 5.0 : 8.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 14.80 : + 0.05 : 1050 : 14.30 : + 0.10	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 2.0 : + 5.0 : 8.0 : 12.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 14.80 : + 0.05 : 1050 : 14.30 : + 0.10	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 2.0 : + 5.0 : 8.0 : 12.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 14.80 : + 0.05 : 1050 : 14.30 : + 0.10	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 2.0 : + 5.0 : 8.0 : 12.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE	: 14.80 : + 0.05 : 1050 : 14.30 : + 0.10	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 2.0 : + 5.0 : 8.0 : 12.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 14.80 : + 0.05 : 1050 : 14.30 : + 0.10	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 2.0 : + 5.0 : 8.0 : 12.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE	: 14.80 : + 0.05 : 1050 : 14.30 : + 0.10	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. rack travel mm Tolerance mm	: + 2.0 : + 5.0 : 8.0 : 12.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE	: 14.80 : + 0.05 : 1050 : 14.30 : + 0.10	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 2.0 : + 5.0 : 8.0 : 12.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE	: 14.80 : + 0.05 : 1050 : 14.30 : + 0.10	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. rack travel mm Tolerance mm Aneroid pressure hPa	: + 2.0 : + 5.0 : 8.0 : 12.0 : 14.60 : + 0.10
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST	: 14.80 : + 0.05 : 1050 : 14.30 : + 0.10	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. rack travel mm Tolerance mm Aneroid pressure hPa	: + 2.0 : + 5.0 : 8.0 : 12.0 : 14.60 : + 0.10
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST	: 14.80 : + 0.05 : 1050 : 14.30 : + 0.10 : 850 : 14.60 : + 0.10	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm	: + 2.0 : + 5.0 : 8.0 : 12.0 : 14.60 : + 0.10
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm	: 14.80 : + 0.05 : 1050 : 14.30 : + 0.10 : 850 : 14.60 : + 0.10	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm Del. quantity	: + 2.0 : + 5.0 : 8.0 : 12.0 : 14.60 : + 0.10
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa	: 14.80 : + 0.05 : 1050 : 14.30 : + 0.10 : 850 : 14.60 : + 0.10 : 400 : 1200	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: + 2.0 : + 5.0 : 8.0 : 12.0 : 14.60 : + 0.10
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa	: 14.80 : + 0.05 : 1050 : 14.30 : + 0.10 : 850 : 14.60 : + 0.10 : 400 : 1200	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm Del. quantity	: + 2.0 : + 5.0 : 8.0 : 12.0 : 14.60 : + 0.10
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa rack travel mm	: 14.80 : + 0.05 : 1050 : 14.30 : + 0.10 : 850 : 14.60 : + 0.10 : 400 : 1200 : 14.80	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: + 2.0 : + 5.0 : 8.0 : 12.0 : 14.60 : + 0.10 : 500 : 144.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa	: 14.80 : + 0.05 : 1050 : 14.30 : + 0.10 : 850 : 14.60 : + 0.10 : 400 : 1200 : 14.80	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: + 2.0 : + 5.0 : 8.0 : 12.0 : 14.60 : + 0.10 : 500 : 144.0

K03

Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance

cm3/1000 strokes : 8.0 Check tolerance

cm3/1000s. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 210.0

Tolerance

cm3/1000 strokes : \leftarrow 20.0

Check tolerance

cm3/1000s. : +- 24.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 5.50
Tolerance mm : + 0.10
Del. quantity

cm3/1000 strokes : 13.0

Tolerance

7 /4 OOC

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : +- 6.0

Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. : 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 05.06.98 : ISO 4113

Combination No. : 0 402 746 645

Injection pump

Pump designation : PES6P120A320RS7364

EP type number : 0 412 726 930

Governor

Governer design. : RQV300...1050PA1204

Governer no. : 0 421 814 123

Cust. part No. : CCEP 5148A 66-236

Customer-spec. information

Customer : RENAULT V.I.
Motor : MIDR 06.20.45D41

Power KW

: 219.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

: 40 : +- 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

K05

x inside diameter: 3.0 x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : ← 1.0

Prestroke mm : tolerance mm : t-4.55 : +- 0.05

Check

: **←** 0.10 tolerance mm

Rack travel in mm : 20.25 Tolerance mm : +- 0.75

Firing order : 1-5- 3- 6- 2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

°NW after s.o.d. : -0.40

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Barrel no. : 1

CRT ZERO POSITION

Rack travel in mm : 13.90

Tolerance mm : ← 0.05

BASIC SETTING

Rated speed rpm : 600	guide sleeve travel mm : 2.40
Del. quantity cm3/1000 strokes : 290.0	Tolerance mm : + 0.25
Tolerance	Rated speed rpm : 415 guide sleeve travel mm : 3.28
cm3/1000 strokes : + 1.0 Check tolerance	travel mm : 3.28 Tolerance mm : + 0.25
cm3/1000s. : +- 4.0	Rated speed rpm : 460 guide sleeve
Spreed	travel mm : 3.86 Tolerance mm : + 0.25
Tolerance + cm3/1000 strokes : 5.0 + cm3/1000 strokes : 5.0	Rated speed rpm : 1460 guide sleeve
Check tolerance cm3/1000s. : 9.0	travel mm : 11.50 Tolerance mm : +- 0.50
	CUIDE CLEENE DOCUTION
Rated speed rpm : 300	GUIDE SLEEVE POSITION
Rack travel in mm : -7.60 Tolerance mm : + 0.10	control lever position degree : - 1
Del. quantity cm3/1000 strokes : 26.0	Rated speed rpm : 1230
Tolerance cm3/1000 strokes : + 2.0	Rack travel in mm : 11.70 Tolerance mm : +- 1.30
Check tolerance cm3/1000s. : +- 5.0	FULL LOAD DELTHERY AT FULL LOAD CTOD
Spreed + Tolerance +	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : 8.0 + Check tolerance	Rated speed rpm : 600 Aneroid pressure
cm3/1000s. : 12.0	hPa : 1000 Del. quantity
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	cm3/1000 strokes : 290.0 Tolerance
ì	cm3/1000 strokes : +- 1.0
<u> </u>	Check tolerance
GUIDE SLEEVE TRAVEL	Check tolerance cm3/1000S. : +- 4.0 Spreed
Rated speed rpm : 1135	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0
+	Check tolerance cm3/1000S. : +- 4.0 Spreed Tolerance
Rated speed rpm : 1135 guide sleeve travel mm : 8.45 Tolerance mm : +- 0.25 Rated speed rpm : 300	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
Rated speed rpm : 1135 guide sleeve travel mm : 8.45 Tolerance mm : +- 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.33	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER
Rated speed rpm : 1135 guide sleeve travel mm : 8.45 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.33 Tolerance mm : + 0.25	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 303.0
Rated speed rpm : 1135 guide sleeve travel mm : 8.45 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.33 Tolerance mm : + 0.25 Rated speed rpm : 752 guide sleeve	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 303.0 tolerance degree : +- 4.0
Rated speed rpm : 1135 guide sleeve travel mm : 8.45 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.33 Tolerance mm : + 0.25 Rated speed rpm : 752	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 303.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : -1.00
Rated speed rpm : 1135 guide sleeve travel mm : 8.45 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.33 Tolerance mm : + 0.25 Rated speed rpm : 752 guide sleeve travel mm : 6.09	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 303.0 tolerance degree : +- 4.0 RATED SPEED

rack travel mm : -9.90 Rated speed rpm : 1315 Tolerance 1/min : +- 15 Rated speed rpm : 1400 LOW IDLE control lever position degree : 267.0 tolerance degree : + 4.0 Testing: Rated speed rpm : 300 rack travel mm : -7.60 Tolerance mm : + 0.10 Rated speed rpm : 200 CRT mm max. : < -5.10Rated speed rpm : 360 TORQUE CONTROL Rated speed rpm : 600 Rated speed rpm : 1050 Tolerance mm : +- 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa : 1000 500 Rated speed rpm : Pressure hPa : -rack travel mm : -2.55 Tolerance mm : + 0.20 MEASUREMENT Rated speed rpm : 500 Pressure hPa : 240 rack travel mm : -1.45

Pressure hPa : 400 rack travel mm : -0.50 Tolerance mm : + 0.05 Start interlock Rated speed rpm : > Rated speed rpm : > Rated speed rpm : < 100 230 Check speed 1/min :> 80 Check speed 1/min : < 250 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 1000 Rated speed rpm : 1050 Del. quantity cm3/1000 strokes : 298.0 Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s. : +- 6.0 Aneroid pressure Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 164.0 Tolerance cm3/1000 strokes : \leftarrow 1.0 Check tolerance cm3/1000s. : +- 4.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : ← 0.75 Del. quantity cm3/1000 strokes : 145.0 Tolerance cm3/1000 strokes : \leftarrow 15.0 Check tolerance cm3/1000s. : +- 19.0

LOW IDLE

K07

Tolerance mm : +- 0.15

Rated speed rpm	:	300
Rack travel in mm Tolerance mm Del. quantity	: : +-	-7.60 0.10
cm3/1000 strokes	:	26.0
Tolerance cm3/1000 strokes	: +-	2.0
Check tolerance cm3/1000s.	: +-	5.0
Spreed Tolerance		
cm3/1000 strokes Check tolerance	:	8.0
cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 04.06.98 : ISO 4113

Combination No. : 0 402 746 882

Injection pump

Pump designation : PES6P120A320RS7156

: -1 EP type number : 0 412 726 830

Governor

Governer design. : RQV350...1050PA941

: -1

Governer no. : 0 421 813 887

Cust. part No. :

Customer-spec. information

Customer : PERKINS Motor : 2006 TW-H

Power KW

: 261.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Test nozzle holde

assembly

: 1 688 901 019

Opening pressure

: 208.5

Tolerance bar : +- 1.5

Test Lines : 1 680 750 075

x inside diameter : x length mm : 1000

Outside diameter : 8.0

3.0

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.55 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50

Tolerance mm : + 1.50

Firing order : 1-4-2-6-3-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Start of delivery mark

Tolerance : + 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 14.05 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 270.0

Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1090s.	: +- 4.0
Spreed	
Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 9.0
Rated speed rpm	: 350
Rack travel in mm	
Tolerance mm Del. quantity	: +- 0.10
cm3/1000 strokes Tolerance	: 66.0
cm3/1000 strokes	: ← 3.0
Check tolerance cm3/1000s. Spreed	: ← 5.0
Tolerance	
cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 12.0
(B) SETTING OF IN WITH GOVERNOR	
GUIDE SLEEVE TRAV	
Rated speed rpm guide sleeve	: 1104
travel mm Tolerance mm	: 5.79 : +- 0.15
Rated speed rpm	: 350
guide sleeve travel mm	: 1.28
Tolerance mm	: +- 0.20
Rated speed rpm guide sleeve	: 1030
travel mm	: 5.00
Tolerance mm	: ← 0.25
Rated speed rpm guide sleeve	: 530
travel mm Tolerance mm	: 5.00 : +- 0.25
. a cor aire inii	

Rated speed rpm guide sleeve travel mm Tolerance mm	: 1350 : 11.50 : +- 0.50
GUIDE SLEEVE POST	TION
control lever position degree Rated speed rpm	: 105 : 800
Rack travel in mm Tolerance mm	: 16.50 : +- 1.30
FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: ← 1.0 : ← 4.0
CONTROL LEVER control lever position degree tolerance degree	: 48.0 : ← 4.0
control lever position degree tolerance degree	: 101.0 : +- 4.0
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 13.00 : 1100 : +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1195 : +- 15
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : ← 0.50 : 1270

LOW IDLE	
control lever	

position degree : 70.0 tolerance degree : + 4.0

control lever

position degree : 16.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

C'T mm min. : > 10.00

Testing:

Rated speed rpm : 350 rack travel mm : 8.10 Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 430
Tolerance 1/min : +- 30

Rated speed rpm : 395

TORQUE CONTROL

Rated speed rpm : 1050 rack travel mm : 14.05 Tolerance mm : + 0.05

Rated speed rpm : 600 rack travel mm : 14.10 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 14.05
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : rack travel mm : 10.90
Tolerance mm : +- 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 560 rack travel mm : 11.90 Tolerance mm : + 0.20

Pressure hPa : 710 rack travel mm : 13.15 Tolerance mm : + 0.05

Start interlock

Rated speed rpm : > 100 Rated speed rpm : < 300

Check

speed 1/min : > 80
Check
speed 1/min : < 320</pre>

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1200 Rated speed rpm : 600 Del. quantity

cm3/1000 strokes : 278.0 Tolerance cm3/1000 strokes : + 3.0

Check tolerance cm3/1000s. : ← 6.0 Spreed

Tolerance

cm3/1000 strokes : 8.0 Check tolerance

cm3/1000s. : 12.0

Aneroid pressure

hPa : -Rated speed rpm : 600 Del. quantity

cm3/1000 strokes : 183.0

Tolerance

cm3/1000 strokes : + 1.0 Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 205.0

Tolerance

cm3/1000 strokes : +- 20.0

Check tolerance cm3/1000s. : +- 24.0

LOW IDLE

Rated speed rpm : 350

Rack travel in mm : 8.10 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 66.0

Tolerance

cm3/1000 strokes : \leftarrow 3.0 cm3/1000 screens
Check tolerance
: +- 5.0

Spreed Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 04.06.98 Edition Test oil

: ISO 4113

Injection pump

Pump designation : PES6P120A720RS7292

: -1 EP type number : 0 412 726 939

Combination No. : 0 402 746 957

Governor

Governer design. : RQV350...1150PA1074

: -2K

Governer no. : 0 421 815 367

Cust. part No. : 0250741002

Customer-spec. information Customer : MB-NFZ Motor : OM366LA Power KW : 157.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40 : +- 2.0 Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 100 Tolerance l/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure : 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.00 Tolerance mm : + 0.05 Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 20.50 Tolerance mm : \leftarrow 0.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300 : **←** 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery blocking

"NW after s.o.d. : 3.30 Tolerance : +- 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm	: 1150	guide sleeve travel mm : 5.56 Tolerance mm : + 0.25
Rack travel in mr Tolerance mm		Rated speed rpm : 550 guide sleeve travel mm : 3.17
Del. quantity cm3/1000 strokes	: 269.0	Tolerance mm : +- 0.25 Rated speed rpm : 1480
Tolerance cm3/1000 strokes	: +- 1.0	guide sleeve travel mm : 13.50 Tolerance mm : +- 0.50
Check tolerance cm3/1000s.	: + 4.0	GUIDE SLEEVE POSITION
Spreed		+
Tolerance cm3/1000 strokes	: 8.0	control lever position degree : - 1 Rated speed rpm : 1331
Check tolerance cm3/1000s.	: 12.0	Rack travel in mm : 13.50 Tolerance mm : +- 1.30
Rated speed rpm	: 350	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm Tolerance mm Del. quantity		Rated speed rpm : 1150 Aneroid pressure hPa : 1500
cm3/1000 strokes Tolerance		Del. quantity cm3/1000 strokes : 269.0
cm3/1000 strokes Check tolerance cm3/1000s.	: +- 3.0 : +- 6.0	+ Tolerance + cm3/1000 strokes : + 1.0 + Check tolerance
Spreed Tolerance cm3/1000 strokes	: 4.0	- cm3/1000s. : +- 4.0 - Spreed - Tolerance
Check tolerance cm3/1000s.		cm3/1000 strokes : 8.0 Check tolerance
		- cm3/1000s. : 12.0
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	CONTROL LEVER
GUIDE SLEEVE TRAV		control lever
Rated speed rpm	: 1206	position degree : 109.0 tolerance degree : +- 4.0
guide sleeve travel mm Tolerance mm	: 9.35 : ← 0.15	RATED SPEED : 13.10
Rated speed rpm guide sleeve	: 350	Rated speed rpm : 1195 Tolerance 1/min : +- 5
guide sleeve travel mm Tolerance mm	: 1.53 : + 0.20	rack travel mm : 4.00 Rated speed rpm : 1325 Tolerance 1/min : +- 15
Rated speed rpm	: 855	+ Total and Trimin

rack travel mm Tolerance mm Rated speed rpm	: 0.70 : +- 0.70 : 1400
LOW IDLE	
control lever position degree tolerance degree	: 65.0 : +- 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 250
CRT mm min.	: > 6.90
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 6.00 : + 0.10
Rated speed rpm	: 400
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 14.10 : +- 0.05
ANEROID/ALTITUDE COMPENSATOR TEST SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1150 : 1500 : 14.10 : +- 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1150 : − : 10.10 : ← 0.15
MEASUREMENT	

Rated speed rpm	: 1150	
Pressure hPa rack travel mm Tolerance mm	: 400 : 10.90 : +- 0.05	
Pressure hPa rack travel mm Tolerance mm	: 850 : 12.50 : ← 0.15	
Start interlock		
Rated speed rpm Rated speed rpm	: > 100 : < 200	
Check speed 1/min Check	: > 80	
speed 1/min	: < 250	
FUEL DELIVERY CHA	RACTERISTICS	
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes	: 13.30 : +- 0.10 : 265.0 : +- 2.0 : +- 5.0	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 120.0 : + 1.0 : + 4.0	
STARTING FUEL DELIVERY		
Set starting CRT	at K-cam.	

Rated speed rpm	:		100
rack travel mm	:		13.50
Tolerance mm	:	+-	0.20
Del. quantity			
cm3/1000 strokes	:		150.0
Tolerance			
cm3/1000 strokes	:	+-	15.0
Check tolerance			
cm3/1000s.	:	+-	19.0

LOW IDLE

Rated speed rpm : 350 6.00 Rack travel in mm : Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance 8.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 15.06.98 : ISO 4113

Combination No. : 0 400 876 430

Injection pump

Pump designation : PES6A95D41ORS2864 EP type number : 0 410 896 888

Governor

Governer design. : RSV400...1050A0C2263

: -10L

Governer no.

: 0 420 232 619

Cust. part No. : 87 801 603

Customer-spec. information

Customer : FNH-GEOTECH

Motor

: P 396

Power KW

: 142.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C

40

Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

Prestroke mm : 2.60 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50

Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 15.20 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 154.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 3.0	+ Check tolerance + cm3/1000s. : ++ 3.0 + Spreed
Spreed	Tolerance cm3/1000 strokes : 3.5
Tolerance cm3/1000 strokes : 3.5	Check tolerance cm3/1000s. : 8.0
Check tolerance cm3/1000s. : 8.0	CONTROL LEVER
	+
Rated speed rpm : 450	+ contro' lever + positi degree : 96.0 + tolerance degree : +- 4.0
Rack travel in mm : 5.70 Tolerance mm : + 0.10	ASSEMBLY COMEDIND SETTING
Del. quantity cm3/1000 strokes : 15.0	+ ASSEMBLY GOVERNOR SETTING
Tolerance cm3/1000 strokes : +- 2.0	Rated speed rpm : 1093 rack travel mm : 12.40
Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance	+ Rated speed rpm : 1158 - Tolerance 1/min : + 5 - rack travel mm : 4.00
cm3/1000 strokes : 5.5 Check tolerance	+
cm3/1000s. : 9.0	rack travel mm : 0.85Tolerance mm : + 0.55Rated speed rpm : 1270
(B) SETTING OF INJECTION PUPP WITH GOVERNOR	Rated speed rpm : 1094 - rack travel mm : 12.40
GUIDE SLEEVE POSITION	 Rated speed rpm : 1159 Tolerance 1/min : +- 5 rack travel mm : 4.00
control lever position degree : - 3 Rated speed rpm : 800	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1270
Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring	Rated speed rpm : 1095 rack travel mm : 12.40
pre-tension click setting x : 4.00	Rated speed rpm : 1160 Tolerance 1/min : +- 5 rack travel mm : 4.00
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 0.85 Tolerance mm : +- 0.55
Rated speed rpm : 750 Aneroid pressure	Rated speed rpm : 1270
hPa : 1200 Del. quantity cm3/1000 strokes : 154.0	+ Rated speed rpm : 1096 - rack travel mm : 12.40
Tolerance cm3/1000 strokes : +- 1.0	Rated speed rpm : 1161 Tolerance 1/min : +- 5

rack travel mm : 4.00	+ Rated speed rpm : 500
	+ rack travel mm : 15.25
rack travel mm : 0.85	+ Tolerance mm : + 0.10
Tolerance mm : +- 0.55	+
Rated speed rpm : 1270	- Rated speed rpm : 1050
	+ rack travel mm : 12.90
	+ rack travel mm : 12.90 + Tolerance mm : + 0.05
Rated speed rpm : 1097	+
rack travel mm : 12.40	+ Rated speed rpm : 1050
	rack travel mm : 13.35
Rated speed rpm : 1162	+ Tolerance mm : + 0.10
Tolerance 1/min : +- 5	
rack travel mm : 4.00	Rated speed rpm : 950
	rack travel mm : 14.25
rack travel mm : 0.85	+ Tolerance mm : + 0.10
Tolerance mm : + 0.55	
Rated speed rpm : 1270	
macca opeca i più i i i i i	ANEROID/ALTITUDE
	+ COMPENSATOR TEST
Rated speed rpm : 1098	
rack travel mm : 12.40	1
1908 (1946) (1111)	↓ SETTING
Rated speed rpm : 1163	3211110
Tolerance 1/min : + 5	Rated speed rpm : 500
rack travel mm : 4.00	
TACK CTAVEL DRIFT . 4.00	Pressure hPa : 1200 rack travel mm : 15.25
rack travel mm : 0.85	Tolerance mm : + 0.10
Tolerance mm : + 0.55	Total ance man
Rated speed rpm : 1270	Rated speed rpm : 500
Rated Speed (piii : 1270	+ Pressure hPa : -
·	rack travel mm : 11.10
LOU TN E	I
LOW IDLE	Tolerance mm : +- 0.05
•	T - MEASUREMENT
control lever	- MEASUREMENT
	Rated speed rpm : 500
position degree : 74.0	Rated speed rpm : 500
tolerance degree : +- 4.0	Pressure hPa : 750
Cabbina naint . /a.t b	
Setting point w/out bumper spring	
Datad annud nos . /FO	Tolerance mm : +- 0.05
Rated speed rpm : 450	Page 100 500
rack travel mm : 5.20	Pressure hPa : 500
Tolerance mm : + 0.10	+ rack travel mm : 11.80 + Tolerance mm : + 0.20
Tankina	Tolerance mm : +- 0.20
Testing:	T
Datad analysis / 50	T
Rated speed rpm : 450	FUEL DELIVERY CHARACTERISTICS
rack travel mm : 5.70 - Tolerance mm : + 0.10	T FUEL DELIVERY CHARACTERISTICS
Toterance mm : Total	T
mark denoted on a 2.00	Ananaid procesure
rack travel mm : 2.00	Aneroid pressure
Rated speed rpm : 580	hPa : -
	hPa : - Rated speed rpm : 500
Rated speed rpm : 580	hPa : - Rated speed rpm : 500 Del. quantity
Rated speed rpm : 580 Tolerance 1/min : + 30	hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 98.5
Rated speed rpm : 580 Tolerance 1/min : + 30 TORQUE CONTROL	hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 98.5 Tolerance
Rated speed rpm : 580 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 750	hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 98.5 Tolerance cm3/1000 strokes : + 1.0
Rated speed rpm : 580 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 750 rack travel mm : 15.20	hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 98.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance
Rated speed rpm : 580 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 750	hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 98.5 Tolerance cm3/1000 strokes : + 1.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 163.0
Tolerance
cm3/1000 strokes : + 8.0
Check tolerance
cm3/1000s. : + 11.0

LOW IDLE

Rated speed rpm : 450 Rack travel in mm: 5.70 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 15.0 Tolerance cm3/1000 strokes : \leftarrow 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance 5.5 cm3/1000 strokes : Check tolerance 9.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 16.06.98 : ISO 4113

Combination No. : 9 400 030 707

Injection pump

Pump designation : PES6A100D320/3RS3511

EP type number : 9 410 037 253

Governor

Governer design. : RQV400...1250AB1320R

Governer no. : F 002 A30 000

Cust. part No. : TATA-CUMMINS

Customer-spec. information

Customer : CUMMINS

Motor

: 6BT - 145 BHP

TEST BENCH REQUIREMENTS

Inlet line : 3.2;

Test oil inlet

temp. °C

Tolerance °C : +- 2.0

Overflow valve : 9 451 037 430

Inlet press. bar :

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

Prestroke mm : 3.10
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order

: 1-5-3-6-2-

: 4

Phasing

: 0-60-120-180-240

: -300

Tolerance

: +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

"NW after s.o.d. : 6.00

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm :

750

Rack travel in mm : 12.75

Tolerance mm : \leftarrow 0.05 Rack travel in mm: 8.30 Tolerance mm : + 0.10 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1347 quide sleeve 8.48 travel mm : 8.48
Tolerance mm : + 0.15 Rated speed rpm : 400 guide sleeve : 1.71 travel mm : 1./7Tolerance mm : $\leftarrow 0.20$ travel mm Rated speed rpm : 880 guide sleeve : 4.97 travel mm Tolerance mm : + 0.25 Rated speed rpm : 499 auide sleeve travel mm : 2.75
Tolerance mm : + 0.25 Rated speed rpm : 549 auide sleeve : 3.30 travel mm : 3.30 Tolerance mm : + 0.25 Rated speed rpm : 560 guide sleeve 3.37 travel mm Tolerance mm : + 0.25 Rated speed rpm : 1620 guide sleeve travel mm : 11.50 Tolerance mm : + 0.50 GUIDE SLEEVE POSITION Rated speed rpm : 1250 Rack travel in mm: 16.00

CONTROL LEVER control lever position degree : 62.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 11.75 Rated speed rpm : 1340 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1475 Tolerance 1/min : + 15 Rated speed rpm : 1530 LOW IDLE control lever position degree : 18.0 tolerance degree : \leftarrow 4.0 Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. : > 9.00 Testing: Rated speed rpm : 400 rack travel mm : 8.30 rack travel mm : 8.30 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 795 Tolerance 1/min : +- 30 TORQUE CONTROL Rated speed rpm : 750 rack travel mm : 12.75 Tolerance mm : + 0.05

Rated speed rpm : 1250

ANEROID/ALTITUDE COMPENSATOR TEST

Tolerance mm : ← 1.30

SETTING

Rated speed rpm : 550
Pressure hPa : 750
Tolerance mm : + 0.05

Rated speed rpm : 550
Pressure hPa : rack travel mm : 11.25
Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 550

Pressure hPa : 445 rack travel mm : 12.00 Tolerance mm : + 0.20

Pressure hPa : 390 rack travel mm : 11.65 Tolerance mm : + 0.20

Start interlock

Rated speed rpm : > 170 Rated speed rpm : > 300

Check

speed 1/min : < 190

Check

speed 1/min : < 340

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 15.50 Tolerance mm : + 0.50

LOW IDLE

Rack travel in mm : 8.30Tolerance mm : +- 0.10

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 16.06.98

: 16.06.98

Combination No. : 0 402 066 709AA

Injection pump

Pump designation : PES6P120A120RS3358

EP type number : 0 412 026 784

Governor

Governer design. : RSV475...1100PCA632

Governer no. : 0 421 833 539

Cust. part No. : 3934128

Customer-spec. information Customer : CDC

Motor

: 6BTA ELITE

Power KW

: 130.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar :

2.0

Tolerance bar : + 0.1

Test nozzle holde assembly

: 1 688 901 103

Opening pressure

bar

: 208.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

K24

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : \leftarrow 1.0

Prestroke mm : 2.85 Tolerance mm : + 0.05

Check

tolerance mm : **←** 0.10

Rack travel in mm : 10.50

Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

Start of delivery blocking

*NW after s.o.d. : 6.75 Tolerance

: +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.20

Tolerance mm : \leftarrow 0.05

Del. quantity +	Aneroid pressure
cm3/1000 strokes : 138.5	hPa : 1500 Del. quantity
Tolerance + cm3/1000 strokes : + 1.0	cm3/1000 strokes : 138.5 Tolerance
	cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000s. : + 3.0	Check tolerance cm3/1000s. : +- 3.0
Spreed	Spreed Tolerance
Tolerance +	cm3/1000 strokes : 4.0 Check tolerance
cm3/1000 strokes : 4.0	cm3/1000s. : 7.5
Check tolerance cm3/1000s. : 7.5	
<u> </u>	CONTROL LEVER
	control lever
Rated speed rpm : 475	position degree : 93.0 tolerance degree : +- 4.0
Rack travel in mm: 5.40	•
Tolerance mm : + 0.20 +	RATED SPEED rack travel mm : 10.20
Del. quantity + cm3/1000 strokes : 24.5 +	Rated speed rpm : 1145
Tolerance	Tolerance 1/min : + 5
cm3/1000 strokes : + 2.0	Check
Check tolerance	speed 1/min : +- 10
cm3/1000s. : + 4.5	5.70
Spreed	rack travel mm : 5.70
Tolerance + cm3/1000 strokes : 6.0 +	Rated speed rpm : 1230 Tolerance 1/min : +- 5
Check tolerance	Check
cm3/1000s. : 9.0	speed 1/min : +- 10
Ţ	rack travel mm : 0.85
(B) SETTING OF INJECTION PUMP	Tolerance mm : +- 0.55
WITH GOVERNOR	Rated speed rpm : 1400
‡	
GUIDE SLEEVE POSITION	
1	LOW IDLE
control lever	
position degree : -3	control lever
Rated speed rpm : 800 +	position degree : 78.0
2.50	tolerance degree : +- 4.0
Rack travel in mm: 0.50 + Tolerance mm: + 0.20 +	Control lever difference
Toterance mm : — 0.20	Grad : 15.0
governor spring	tolerance degree : + 6.0
pre-tension +	1170.0
click setting x : 4.25	Setting point w/out bumper spring
	Rated speed rpm : 475
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 4.90
+	Tolerance mm : +- 0.10
Rated speed rpm : 1100	Rated speed rpm : 100
†	nateu speeu (piii : 100

CRT mm min. Testing: Rated speed rpm rack travel mm	: 475 : 5.40	† † † †	Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
Tolerance mm	: +- 0.20		Aneroid pressure hPa Rated speed rpm	: – : 500
TORQUE CONTROL Rated speed rpm	: 1100	<u>_</u>	Del. quantity cm3/1000 strokes	
rack travel mm Tolerance mm	: 11.20	+	Tolerance cm3/1000 strokes	
Rated speed rpm rack travel mm	: 750 : 12.00	+	Check tolerance cm3/1000s.	: +- 3.0
Tolerance mm		-		· · · · · · · · · · · · · · · · · · ·
ANDOTO /ALTITUDE			STARTING FUEL DEL	IVERY
ANEROID/ALTITUDE COMPENSATOR TEST		1	Rated speed rpm rack travel mm Tolerance mm	: 100 : 21.00 : + 0.50
SETTING		+	Del. quantity cm3/1000 strokes	
Rated speed rpm Pressure hPa	: 500 : 1500	<u>†</u>	Tolerance cm3/1000 strokes Check tolerance	: +- 20.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: – : 9.30	T + +	cm3/100GS.	: ← 25.0
MEASUREMENT		†	LOW IDLE	
Rated speed rpm	: 500	Ī	Rated speed rpm	: 475
Pressure hPa rack travel mm Tolerance mm	: 975 : 11.50 : +- 0.20	+	Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: +- 0.20
Pressure hPa rack travel mm	: 545 : 9.85	Ī	Tolerance cm3/1000 strokes	
Tolerance mm	: +- 0.20	‡	Check tolerance cm3/1000s.	
		‡	Spreed Tolerance	
FUEL DELIVERY CHA	RACTERISTICS	‡	cm3/1000 strokes Check tolerance	
Aneroid pressure		<u>†</u>	cm3/1000s.	: 9.0
hPa Rated speed rpm	: 1500 : 750	+		
Del. quantity cm3/1000 strokes Tolerance	: 170.0	‡	End of test speci	fication chast
cm3/1000 strokes Check tolerance	: +- 3.0	Ī	End of test spect	illation sheet
cm3/1000s.	: +- 6.0	+		

K26

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 07.05.98 Test oil : ISO 4113

Combination No. : 0 403 466 177

Injection pump

Pump designation : PES6MW100/120RS1238

EP type number : 0 413 406 237

Governor

Governer design. : RSV450...1100MW0A413

Governer no. : 0 420 085 304

Cust. part No. : 3931283

Customer-spec. information Customer : CDC : 6 CT Motor

Power KW

: 123.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : \leftarrow 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.80
Tolerance mm : + 0.05

Check

tolerance mm : ← 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: **←** 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.50 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel : 15.00 Difference ° CS : 2.00

BASIC SETTING	
Rated speed rpm	: 1100
Rack travel in mm Tolerance mm	: 10.25 : + 0.05
Del. quantity cm3/1000 strokes	: 119.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: + 4.0
Spreed	
Tolerance cm3/1000 strokes	: 4.0
Check tolerance cm3/1000s.	: 7.5
Rated speed rpm	: 450
Rack travel in mm Tolerance mm Del. quantity	: 5.50 : + 0.10
cm3/1000 strokes Tolerance	: 23.0
cm3/1000 strokes Check tolerance	: +- 2.0
cm3/1000s. Spreed	: +- 4.5
Tolerance cm3/1000 strokes Check tolerance	: 3.5
cm3/1000s.	: 5.5
(B) SETTING OF INJ WITH GOVERNOR	ECTION PUMP
GUIDE SLEEVE POSIT	ION
control lever position degree Rated speed rpm	: - 3 : 800
Rack travel in mm Tolerance mm	: 0.50 : +- 0.20

click setting x : 3.75FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure 1200 hPa Del. quantity cm3/1000 strokes : 119.0 Tolerance cm3/1000 strokes : +- 1.0Check tolerance : **←** 4.0 cm3/1000s. Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5 CONTROL LEVER control lever position degree : 97.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 9.25 Rated speed rpm : 1185 : +- 5 Tolerance 1/min Check speed 1/min : + 10 rack travel mm : 4.00 Rated speed rpm : 1280 Tolerance 1/min : +-Check speed 1/min : +- 10 rack travel mm : 4.0 Rated speed rpm : 1290 4.00 Tolerance 1/min : +- 15 Check speed 1/min : +- 20 LOW IDLE

governor spring pre-tension

control lever position degree : 83.0 tolerance degree : + 4.0
Control lever difference Grad : 14.0 tolerance degree : +- 6.0
Setting point w/out bumper spring
Rated speed rpm : 450 rack travel mm : 5.00 Tolerance mm : + 0.10
Rated speed rpm : 100
CRT mm min. : > 19.00
Testing:
Rated speed rpm : 450 rack travel mm : 5.50 Tolerance mm : +- 0.10
TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 10.25 Tolerance mm : +- 0.05
Rated speed rpm : 700 rack travel mm : 11.30 Tolerance mm : + 0.10
Rated speed rpm : 1000 rack travel mm : 10.60 Tolerance mm : +- 0.20
ANEROID/ALTITUDE COMPENSATOR TEST
SETTING
Rated speed rpm : 500 Pressure hPa : 1200
Rated speed rpm : 500 Pressure hPa : - rack travel mm : 10.50 Tolerance mm : + 0.20
MEASUREMENT
Rated speed rpm : 500
Pressure hPa : 590 rack travel mm : 11.10

Tolerance mm	: + 0.20
Pressure hPa rack travel mm Tolerance mm	: 545 : 10.90 : + 0.20
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +- 2.0 : +- 5.0 : 6.0 : 9.0
rack travel mm Tolerance mm	: 10.60 : + 0.20
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 117.0 : + 1.0 : + 3.0
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 20.50 : + 1.00 : 177.0
LOW IDLE	

L01

Rated speed rpm	:		450
Rack travel in mm Tolerance mm	:	+-	5.50 0.10
Del. quantity cm3/1000 strokes Tolerance	:		23.0
cm3/1000 strokes Check tolerance	:	+-	2.0
cm3/1000s. Spreed	:	+-	4.5
01107 1000 311 01103	:		3.5
Check tolerance cm3/1000S.	:		5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.06.98 Test oil : ISO 4113

Combination No. : 0 402 646 667

Injection pump

Pump designation : PE6P12OA32ORS7412 EP type number : 0 412 626 953

Governor

Governer design. : RQV275...1000PA1278K

Governer no. : 0 421 815 509

Cust. part No. : 1310221/1

Customer-spec. information

Customer : DAF

: XF 315 M Motor

Power KW : 315.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

: 40 : ← 2.0 temp. °C Tolerance °C

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : ← 0.1

Overflow quantity

min. l/h : 140
Tolerance l/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 15.0 Tolerance bar : +- 1.0

Prestroke mm : 4.45 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm: 13.40 Tolerance mm : +- 0.05

	1	guide sleeve
Del. quantity	- I	travel mm : 3.92
cm3/1000 strokes : 318	8.0	Tolerance mm : + 0.25
Tolerance	I	Rated speed rpm : 1310
cm3/1000 strokes : +- '	10 I	guide sleeve
Chortones . The	1.0	travel mm : 13.50
Check tolerance	 Ţ	Tolerance mm : +- 0.50
	4.0 I	Total ance min . The 0.50
CIIIS/ 10005.	4.0 I	
Spreed		GUIDE SLEEVE POSITION
spreed	I	GOIDE SECENE POSTITOIN
Tolerance	I	
cm3/1000 strokes :	5.0 I	control lever
clis/ 1000 strokes	J. 0	position degree : - 1
Check tolerance	I	Rated speed rpm : 1158
	9.0 I	Rated Speed (piii . 1130
Chist fucus.	J	Rack travel in mm : 12.00
	T	Tolerance mm : + 2.70
	T	Total differential . The 2.70
Dated aread area 275	-	
Rated speed rpm : 275	7	FULL LOAD DELIVERY AT FULL LOAD STOP
Saala Amarial da amaria	20	FULL LUAD DELIVERY AT FULL LUAD STOP
	.20	Dated aread are
Tolerance mm : + 0.	. 10	Rated speed rpm : 980
Del. quantity	, , , , , , , , , , , , , , , , , , , ,	Aneroid pressure
· · · · · · · · · · · · · · · · · · ·	3.5	hPa : 1500
Tolerance	, , , , ,	Del. quantity cm3/1000 strokes : 318.0
	3.0	
Check tolerance	, ,	Tolerance
	5.0	cm3/1000 strokes : +- 1.0
Spreed	†	Check tolerance
Tolerance	· · · · · · · · · · · · · · · · · · ·	cm3/1000s. : +- 4.0
cm3/1000 strokes : 8	7	Spreed
Check tolerance	· · · · · · · · · · · · · · · · · · ·	Tolerance 5.0
cm3/1000s. : 12	2.0	cm3/1000 strokes : 5.0
	†	Check tolerance
(0) 0000010 00 11110077011	T	cm3/1000S. : 9.0
(B) SETTING OF INJECTION F	-UMP +	
WITH GOVERNOR	†	
	†	CONTROL LEVES
CUITAGE OF PERIOD TRANSPI	 †	CONTROL LEVER
GUIDE SLEEVE TRAVEL	†	anning layer
Dated aread may . 1077	,	control lever
Rated speed rpm : 1077	†	position degree : 119.0
guide sleeve	7/	tolerance degree : +- 4.0
travel mm : 10. Tolerance mm : +- 0.		DATED CREED
Tolerance mm : \leftarrow 0.	13	RATED SPEED
Data dan and man a 275	. †	rack travel mm : 12.40 Rated speed rpm : 1040
Rated speed rpm : 275	·	Rateo speed rpm : 1040 Tolerance 1/min : +- 5
guide sleeve	04	
		Check speed 1/min : + 10
Tolerance mm : + 0.	²⁰ †	speed 1/min : +- 10
Poted anged pro : 70/	†	rack travel mm : 4.00
Rated speed rpm : 704	†	
guide sleeve	T	
	53 +	
Tolerance mm : +- 0.	+	Check speed 1/min : +- 20
Dated aread res	, †	speed 1/min : +- 20
Rated speed rpm : 400	' †	rack travel mm : 0.50
	+	rack travel mm : 0.50

Tolerance mm Rated speed rpm	: ← 0.50 : 1275
LOW IDLE	
control lever position degree tolerance degree	: 72.0 : +- 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 175
CRT mm min.	: > 6.60
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : 5.20 : + 0.10
Rated speed rpm	: 300
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 980 : 13.40 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.35 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 700 : 13.05 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 600 : 12.55 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 500 : 12.05 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 1000 : 13.40 : ← 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	980
Pressure hPa	:	1500
rack travel mm	:	13.40
Tolerance mm	:	← 0.05

Rated speed rpm	:	980
Pressure hPa	:	_
rack travel mm	:	8.55
Tolerance mm	: +	- 0.20

MEASUREMENT

kated speed rpm	•	700
Pressure hPa rack travel mm Tolerance mm	: : : +	520 12.20 - 0.05

Pressure hPa	:	210
rack travel mm	:	9.80
Tolerance mm	: +	-0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 1500 : 750 : 342.0
Tolerance cm3/1000 strokes Check tolerance	: + 2.0
cm3/1000S. Spreed Tolerance	: ← 5.0
cm3/1000 strokes Check tolerance cm3/1000s.	: 8.0 : 12.0
rack travel mm Tolerance mm	: 13.05 : - 0.10
Aneroid pressure	:

Rated speed rpm : 600 Del. quantity cm3/1000 strokes : 195.0

Rated speed rpm : 980 rack travel mm : 13.80 Tolerance mm : + 0.10

Tolerance		
cm3/1000 strokes	: +-	1.0
Check tolerance		
cm3/1000s.	: +-	4.0
Spreed		
Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance		
cm3/1000s.	:	12.0

LOW IDLE

Rated speed rpm	•		275
Rack travel in mm	:		5.20
Tolerance mm	:	+-	0.10
Del. quantity			
cm3/1000 strokes	:		13.5
Tolerance			
cm3/1000 strokes	:	+-	3.0
Check tolerance			
cm3/1000s.	:	+-	6.0
Spreed			
Tolerance			
cm3/1000 strokes	:		8.0
Check tolerance			
cm3/1000s.	:		12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 17.06.98 : ISO 4113

Combination No. : 0 402 646 668

Injection pump

Pump designation : PE6P120A320RS7412

EP type number : 0 412 626 953

Governor

Governer design. : RQV275...1000PA1278

: -1K

Governer no.

: 0 421 815 510

Cust. part No. : 1310220/1

Customer-spec. information Customer : DAF

Motor

Power KW

: XF 280 M : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve : 1 417 413 000

Inlet press. bar :

1.5

Tolerance bar

: +- 0.1

Overflow quantity

min. l/h : 145 Tolerance l/h : +- 20.0

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

: 208.5

Tolerance bar : ← 1.5

L07

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter :

3.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 15.0 Tolerance bar : + 1.0

Prestroke mm 4.45 : **←** 0.05 Tolerance mm

Check

: **←** 0.10 tolerance mm

Rack travel in mm: 10.50

: **←** 1.50 Tolerance mm

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance "NW : \leftarrow 0.75

Start of delivery mark

Tolerance : ← 0.10

Check

tolerance °NW

: +- 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm :

750

Rack travel in mm : 12.60

Tolerance mm	· +- 0.05	
Del. quantity cm3/1000 strokes	303.0	
Tolerance cm3/1000 strokes	+- 1.0	
Check tolerance cm3/1000s.	+- 4.0	
Spreed		
Tolerance cm3/1000 strokes :	5.0	
Check tolerance cm3/1000\$. :	9.0	
Rated speed rpm :	275	
Rack travel in mm : Tolerance mm :	5.20 + 0.10	
Del. quantity cm3/1000 strokes :	13.5	
Tolerance cm3/1000 strokes : Check tolerance	← 3.0	
cm3/1000s. : Spreed	← 6.0	
Tolerance cm3/1000 strokes :	8.0	
Check tolerance cm3/1000s. :	12.0	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR		
GUIDE SLEEVE TRAVEL		
Rated speed rpm : guide sleeve	1062	
travel mm : Tolerance mm :	10.04 ← 0.15	
Rated speed rpm : guide sleeve	275	
travel mm : Tolerance mm :	2.04 +- 0.20	
Rated speed rpm : guide sleeve	697	
travel mm : Tolerance mm :	6.48 +- 0.25	
Rated speed rpm :	400	

guide sleeve travel mm Tolerance mm	: 3.92 : + 0.25	
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1310 : 13.50 : ← 0.50	
GUIDE SLEEVE POSITION		

control lever position degree : - 1 Rated speed rpm : 1171

Rack travel in mm : 10.70 Tolerance mm : +- 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 750 Aneroid pressure : 1500 hPa Del. quantity cm3/1000 strokes : 303.0 Tolerance cm3/1000 strokes : \leftarrow 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance : 9.0 cm3/1000s.

CONTROL LEVER

control lever
position degree : 118.0
tolerance degree : + 4.0

RATED SPEED
rack travel mm : 11.35
Rated speed rpm : 1050
Tolerance 1/min : + 5
Check
speed 1/min : + 10

rack travel mm : 4.00
Rated speed rpm : 1150
Tolerance 1/min : + 15
Check

rack travel mm : 0.50

speed 1/min : +- 20

Tolerance mm : +- 0.50 Rated speed rpm : 1275	Rated speed rpm : 775 Pressure hPa : 1500 rack travel mm : 12.65 Tolerance mm : + 0.05
LOW IDLE	Rated speed rpm : 775 Pressure hPa : - rack travel mm : 8.50
	+ Tolerance mm : + 0.20
control lever position degree : 71.0 tolerance degree : +- 4.0	+ MEASUREMENT
toterance degree : 1- 4.0	Rated speed rpm : 775
Setting point w/out bumper spring	Pressure hPa : 450
Rated speed rpm : 175	rack travel mm : 12.10 Tolerance mm : + 0.05
CRT mm min. : > 6.50	Pressure hPa : 170
Testing:	rack travel mm : 9.90 Tolerance mm : + 0.10
Rated speed rpm : 275	+
rack trave: 10m : 5.20	+
Tolerance is : +- 0.10	FUEL DEL THERY CHARACTERISTICS
Rated speed rpm : 300	+ FUEL DELIVERY CHARACTERISTICS
	Aneroid pressure
TORQUE CONTROL	+ hPa : 1500
Rated speed rpm : 750	Rated speed rpm : 980
rack travel mm : 12.60	+ Del. quantity
Tolerance mm : +- 0.05	cm3/1000 strokes : 272.0
200	+ Tolerance
Rated speed rpm : 980	+ cm3/1000 strokes : + 2.0
rack travel mm : 12.35 Tolerance mm : + 0.10	- Check tolerance - cm3/1000s. : +- 5.0
Bakad aread may 1 000	+ Spreed + Tolerance
Rated speed rpm : 900 rack travel mm : 12.60	+ cm3/1000 strokes : 8.0
Tolerance mm : + 0.10	Check tolerance
toter datice than	+ cm3/1000s. : 12.0
Rated speed rpm : 700	+
rack travel mm : 12.30 Tolerance mm : + 0.10	+
Tolerance mm : ← 0.10	rack travel mm : 12.60 Tolerance mm : + 0.10
Rated speed rpm : 600	+
rack travel mm : 11.80	
Tolerance mm : +- 0.10	+ Aneroid pressure
m	+ hPa : -
Rated speed rpm : 500 rack travel mm : 11.40	Rated speed rpm : 600
rack travel mm : 11.40 Tolerance mm : +- 0.10	+ Del. quantity + cm3/1000 strokes : 184.0
Toterance in . += 0.10	Tolerance
	+ cm3/1000 strokes : +- 1.0
ANEROID/ALTITUDE	+ Check tolerance
COMPENSATOR TEST	+ cm3/1000s. : +- 4.0 + Spreed
SETTING	Tolerance cm3/1000 strokes : 8.0
	+

Check tolerance : 12.0

LOW IDLE

Rated speed rpm : 275

Rack travel in mm : 5.20 Tolerance mm : ← 0.10

Del. quantity

cm3/1000 strokes : 13.5

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : +- 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 17.06.98 Edition : ISO 4113 Test oil

Combination No. : 0 402 646 673

Injection pump

Pump designation : PE6P120A320RS7412 EP type number : 0 412 626 953

Governor

Governer design. : RQV275...1000PA1300K

Governer no. : 0 421 815 527

Cust. part No. : 1315099

Customer-spec. information Customer : DAF : XF 250 M Motor : 250.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C

: 1 417 413 000 Overflow valve

Inlet press. bar : 1.5 : +- 0.1 Tolerance bar

Overflow quantity

min. L/h : 150 Tolerance L/h : +- 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 15.0 Tolerance bar : ← 1.0

Prestroke mm : 4.45 : +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : ← 1.50

: 1-5-3-6-2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance °NW : **←** 0.75

Barrel no. : 1

BASIC SETTING

750 Rated speed rpm :

		1
Rack travel in mm : Tolerance mm :	: 11.85 : +- 0.05	Rated speed rpm : 400 guide sleeve travel mm : 3.92
Del. quantity cm3/1000 strokes :	: 283.0	Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes :	: + 1.0	Rated speed rpm : 1310 guide sleeve travel mm : 13.50
Check tolerance cm3/1000s. :	+ 4.0	Tolerance mm : +- 0.50
Spreed		+ GUIDE SLEEVE POSITION +
Tolerance cm3/1000 strokes :	5.0	control lever position degree : - 1 Rated speed rpm : 1181
Check tolerance cm3/1000s. :	9.0	Rack travel in mm : 10.00 Tolerance mm : +- 2.00
Rated speed rpm :	275	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : Tolerance mm : Del. quantity	5.20 + 0.10	Rated speed rpm : 750 Aneroid pressure hPa : 1500
cm3/1000 strokes : Tolerance		Del. quantity + cm3/1000 strokes : 283.0
cm3/1000 strokes : Check tolerance cm3/1000s. :	÷ 6.0	+ Tolerance + cm3/1000 strokes : +- 1.0 + Check tolerance
Spreed Tolerance	0.0	cm3/1000s. : + 4.0 + Spreed
cm3/1000 strokes : Check tolerance cm3/1000s. :		+ Tolerance + cm3/1000 strokes : 5.0 + Check tolerance
		+ cm3/1000s. : 9.0
(B) SETTING OF INJE WITH GOVERNOR	CTION PUMP	CONTROL LEVER
CHINE OF FIVE TRAVEL		+
GUIDE SLEEVE TRAVEL		control lever position degree : 118.0
Rated speed rpm : guide sleeve		tolerance degree : +- 4.0
travel mm : Tolerance mm :	10.16 +- 0.15	+ RATED SPEED + rack travel mm : 10.50
Rated speed rpm :	A=#	Rated speed rpm : 1045 + Tolerance 1/min : + 5
guide sleeve travel mm : Tolerance mm :	2.04 +- 0.20	Check speed 1/min : +- 10
Rated speed rpm :		rack travel mm : 4.00 Rated speed rpm : 1140
guide sleeve travel mm :	6.52	Tolerance 1/min : + 15 Check speed 1/min : + 20
Tolerance mm :	+- 0.25	+ speed 1/min : + 20

rack travel mm Tolerance mm Rated speed rpm	: 0.70 : ← 0.70 : 1275
LOW IDLE	
control lever position degree tolerance degree	: 70.0 : ← 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 175
CRT mm min.	: > 6.50
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : 5.20 : + 0.10
Rated speed rpm	: 310
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 750 : 11.85 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 980 : 11.35 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 900 : 11.50 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 700 : 11.75 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 600 : 11.20 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 500 : 10.80 : +- 0.10
	

SETTING

Rated speed rpm	: 775
Pressure hPa	: 1500
rack travel mm	: 11.85
Tolerance mm	: ← 0.05
Rated speed rpm	: 775
Pressure hPa	: −
rack travel mm	: 8.30
Tolerance mm	: ← 0.20
MEASUREMENT	
Rated speed rpm	: 775
Pressure hPa	: 460
rack travel mm	: 11.00
Tolerance mm	: + 0.05
Pressure hPa	: 250
rack travel mm	: 9.30
Tolerance mm	: ← 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure	
hPa	: 1500
Rated speed rpm	: 980
Del. quantity	
cm3/1000 strokes	: 245.0
Tolerance	
cm3/1000 strokes	: ← 2.0
Check tolerance	
cm3/1000S.	: +- 5.0
Spreed	
Tolerance	0.0
cm3/1000 strokes	: 8.0
Check tolerance	. 12.0
cm3/1000s.	: 12.0
	
rack travel mm	: 11.50
Tolerance mm	: +- 0.10
Aneroid pressure	
hPa	: -
Rated speed rpm	: 600
Del. quantity	
cm3/1000 strokes	: 188.0
Tolerance	
cm3/1000 strokes	: +- 1.0
Check tolerance	

cm3/1000s. : +- 4.0

ANEROID/ALTITUDE

COMPENSATOR TEST

LOW IDLE

Rated speed rpm	:	275	
Rack travel in mm Tolerance mm	: +-	5.20 0.10	
Del. quantity	:	13.5	
Tolerance cm3/1000 strokes	: +-	3.0	
Check tolerance cm3/1000s.	: +-	6.0	
Spreed Tolerance	•	2.0	
T. (4000	:	8.0	
cm3/1000s.	:	12.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 17.06.98 Edition : 17.06.98 Test oil : ISO 4113

Combination No. : 0 402 646 681

Injection pump

Pump designation : PE6P120A320RS7412

EP type number : 0 412 626 953

Governor

Governer design. : RQV275...1000PA1381K

Governer no.

: 0 421 815 561

Cust. part No. : 1349846/0

Customer-spec. information Customer : DAF Motor : XF 250 : 250.0

Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

Overflow valve : 1 417 413 000

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

L15

x inside diameter : 3.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 15.0 Tolerance bar : + 1.0

Prestroke mm : +-4.45 : +- 0.05

Rack travel in mm : 11.50 Tolerance mm : +- 0.50

: 1-5-3-6-2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : + 0.50

Check

tolerance °NW : \leftarrow 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

tolerance °NW : +- 0.70

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 11.35 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 245.0

	+ Rated speed rpm : 1282
Tolerance cm3/1000 strokes : +- 1.0	guide sleeve travel mm : 12.00 Tolerance mm : +- 0.25
Check tolerance cm3/1000s. : +- 4.0	Rated speed rpm : 1370 guide sleeve
Spreed	
Tolerance	Total and min
cm3/1000 strokes : 5.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : 9.0	Rated speed rpm : 1263
	Rack travel in mm: 10.50
Rated speed rpm : 275	Tolerance mm : + 1.30
Rack travel in mm : 5.20	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm : +- 0.10 Del. quantity	Rated speed rpm : 980
cm3/1000 strokes : 13.5 Tolerance	+ Aneroid pressure + hPa : 1500
cm3/1000 strokes : + 3.0	+ Del. quantity
Check tolerance cm3/1000s. : +- 6.0	+ cm3/1000 strokes : 245.0 + Tolerance
Spreed	cm3/1000 strokes : + 1.0 Check tolerance
Tolerance cm3/1000 strokes : 8.0	+ cm3/1000s. : $+$ 4.0
Check tolerance cm3/1000s. : 12.0	+ Spreed + Tolerance
	+ cm3/1000 strokes : 5.0
(B) SETTING OF INJECTION PUMP	+ Check tolerance + cm3/1000s. : 9.0
WITH GOVERNOR	Ŧ
GUIDE SLEEVE TRAVEL	CONTROL LEVER
Rated speed rpm : 1055	control lever
guide sleeve travel mm : 7.47	<pre>position degree : 110.0 tolerance degree : + 4.0</pre>
Tolerance mm : + 0.15	+ RATED SPEED
Rated speed rpm : 275	rack travel mm : 10.50
guide sleeve travel mm : 2.04	+ Rated speed rpm : 1045 + Tolerance 1/min : +- 5
Tolerance mm : + 0.20	+ Check + speed 1/min : + 10
Rated speed rpm : 820	+
guide sleeve travel mm : 5.14	+ rack travel mm : 4.00 + Rated speed rpm : 1130
Tolerance mm : + 0.25	Tolerance 1/min : +- 15 Check
Rated speed rpm : 480 guide sleeve	speed 1/min : + 20
travel mm : 3.34 Tolerance mm : + 0.25	+ rack travel mm : 0.70 + Tolerance mm : + 0.70
TO COT MITTIES	Rated speed rpm : 1275

LOW IDLE

control lever

position degree : 74.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 175

CRT mm min. : > 7.00

Testing:

Rated speed rpm : 275
rack travel mm : 5.20
Tolerance mm : + 0.10

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 980 rack travel mm : 11.35 Tolerance mm : + 0.10

Rated speed rpm : 900 rack travel mm : 11.50 Tolerance mm : + 0.10

Rated speed rpm : 750 rack travel mm : 11.85 Tolerance mm : ± 0.05

Rated speed rpm : 700 rack travel mm : 11.75 Tolerance mm : + 0.10

Rated speed rpm : 600 rack travel mm : 11.30 Tolerance mm : +- 0.10

Rated speed rpm : 500 rack travel mm : 10.90 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 775 Pressure hPa : 1500 rack travel mm : 11.85 Tolerance mm : + 0.10

Rated speed rpm : 775
Pressure hPa : 460
rack travel mm : 11.00
Tolerance mm : +- 0.05

MEASUREMENT

Rated speed rpm : 775

Pressure hPa : rack travel mm : 8.30
Tolerance mm : +- 0.20

Pressure hPa : 250 rack travel mm : 9.30 Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure : 1500 Rated speed rpm : 750 rack travel mm : 11 8 rack travel mm : 11.85 Tolerance mm : +- 0.05 Del. quantity cm3/1000 strokes : 283.0 Tolerance cm3/1000 strokes : \leftarrow 2.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 10.0 Check tolerance : 15.0 cm3/1000s.

Aneroid pressure		
hPa	:	_
Rated speed rpm	:	600
Del. quantity		
cm3/1000 strokes	:	188.0
Tolerance		
cm3/1000 strokes	: -	⊢ 1.0
Check tolerance		
cm3/1000s.	: -	⊢ 4.0
Spreed		
Tolerance		
cm3/1000 strokes	:	10.0
Check tolerance		
cm3/1000s		15 N

LOW IDLE

Rated speed rpm : 275
Rack travel in mm: 5.20 Tolerance mm: + 0.10
Del. quantity
cm3/1000 strokes : 13.5
Tolerance cm3/1000 strokes : +- 3.0
Check tolerance
cm3/1000s. : \leftarrow 6.0
Spreed Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.06.98 Test oil : ISO 4113

Combination No. : 0 402 648 780

Injection pump

Pump designation : PE8P12OA32OLS7871 EP type number : 0 412 628 877

Governor

Governer design. : RQV300...1050PA1078

: -2K

Governer no. : 0 421 815 548

Cust. part No. : 988 04 47

Customer—spec. information Customer : LIEBHERR Motor : D 9408 TI—EA3

Power KW : 420.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : \leftarrow 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 230
Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 0.50

Firing order : 1-8-7-2-6

: - 3- 5- 4

Phasing : 0-45-90-135-180

: -225-270-315 : +- 0.50

Tolerance :

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.65
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 295.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance	
cm3/1000s. : +- 4.0 +	GUIDE SLEEVE POSITION
Spreed	
Tolerance cm3/1000 strokes : 5.0	control lever position degree : - 1 Rated speed rpm : 1180
Check tolerance cm3/1000s. : 9.0	Rack travel in mm : 12.50 Tolerance mm : +- 2.70
Rated speed rpm : 350	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm: 4.90 + Tolerance mm: + 0.10 + Del. quantity	Rated speed rpm : 1050 Aneroid pressure hPa : 1600
cm3/1000 strokes : 30.0 + Tolerance cm3/1000 strokes : + 3.0 +	Del. quantity cm3/1000 strokes : 295.0 Tolerance
Check tolerance cm3/1000s. : +- 6.0	cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0
Spreed Tolerance cm3/1000 strokes : 6.0	Spreed Tolerance cm3/1000 strokes : 5.0
Check tolerance cm3/1000S. : 10.0	Check tolerance cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	CONTROL LEVER
GUIDE SLEEVE TRAVEL	control lever position degree : 121.0
Rated speed rpm : 1117 guide sleeve	tolerance degree : +- 4.0
travel mm : 10.27 + Tolerance mm : + 0.15 +	RATED SPEED rack travel mm : 11.65 Rated speed rpm : 1110
Rated speed rpm : 300 + guide sleeve	Tolerance 1/min : + 5
travel mm : 1.11 Tolerance mm : + 0.20	rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : +- 15
Rated speed rpm : 755 + guide sleeve	rack travel mm : 0.50
travel mm : 6.17 Tolerance mm : + 0.25	Tolerance mm : +- 0.50 Rated speed rpm : 1300
Rated speed rpm : 480 + guide sleeve + travel mm : 3.75 +	
Tolerance mm : + 0.25	LOW IDLE
Rated speed rpm : 1330 + guide sleeve + travel mm : 13.50 +	control lever position degree : 73.0
Tolerance mm : + 0.50 +	tolerance degree : +- 4.0

Setting point w/c	out bumper spring
Rated speed rpm	: 250
CRT mm min.	: > 6.60
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 4.90 : +- 0.10
Rated speed rpm	: 400
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1050 : 12.65 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 500 : 10.00 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 800 : 11.80 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 950 : 12.20 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 600 : 10.80 : +- 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1050 : 1600 : 12.65 : + 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1050 : - : 8.30 : + 0.20
MEASUREMENT	
Rated speed rpm	: 1050

Tolerance mm	: 0.05
Pressure hPa rack travel mm Tolerance mm	: 700 : 9.50 : ← 0.20
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 270
Check speed 1/min Check	: > 80
speed 1/min	: < 290
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1600 : 500
Del. quantity cm3/1000 strokes	: 280.0
Tolerance cm3/1000 strokes	: 3.0
Check tolerance cm3/1000s.	: ← 6.0
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1600 : 800 : 11.80 : + 0.10 : 299.0 : + 3.0 : + 6.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 550 : 209.0 : + 1.0 : + 4.0 : 8.0 : 12.0

Pressure hPa : 1050 rack travel mm : 11.80

STARTING FUEL DELIVERY

100 Rated speed rpm : rack travel mm : 10.00 Tolerance mm : **←** 0.30

Del. quantity

cm3/1000 strokes : 190.0

Tolerance

cm3/1000 strokes : + 15.0

Check tolerance

cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm : 350

4.90 Rack travel in mm : 0.10 Tolerance mm : +-Del. quantity

cm3/1000 strokes : 30.0

Tolerance

cm3/1000 strokes : \leftarrow 3.0

Check tolerance

cm3/1000s. : +- 6.0 Spreed

Tolerance

cm3/1000 strokes :

6.0

Check tolerance

cm3/1000s. 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 16.06.98 : ISO 4113

Combination No. : 0 402 676 841

Injection pump

Pump designation : PE6P120A320LS7928 EP type number : 0 412 626 977

Governor

Governer design. : RSV600...1050P0A696

Governer no. : 0 421 833 619

Cust. part No. : 0270744102

Customer-spec, information Customer : MB-NFZ : OM 441 LA Motor : 300.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 temp. "C : 40 Tolerance "C : \leftarrow 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 105 Tolerance l/h : +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : \leftarrow 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter :

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

: 4.35 : +- 0.05 Prestroke mm Tolerance mm

Check

tolerance mm : **←** 0.10

Rack travel in mm : 20.50 Tolerance mm : \leftarrow 0.50

Firing order : 6-3-5-2-4-

: 1

Phasing : 0-45-120-165-240

: -285

: +- 0.50 Tolerance

Check

tolerance "NW : +- 0.75

Start of delivery mark

: **←** 0.10 Tolerance

Check

tolerance °NW : **←** 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm : 14.70 Tolerance mm : + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1075
Del. quantity cm3/1000 strokes : 275.0	Aneroid pressure + hPa : 1200 - Del. quantity
Tolerance cm3/1000 strokes : + 1.0	cm3/1000 strokes : 275.0 Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000s. : +- 4.0	Check tolerance cm3/1000s. : + 4.0
Spreed	Spreed Tolerance cm3/1000 strokes : 6.0
Tolerance cm3/1000 strokes : 6.0	Check tolerance cm3/1000s. : 9.0
Check tolerance cm3/1000S. : 9.0	
	+ CONTROL LEVER
Rated speed rpm : 600	control lever position degree : 86.0 tolerance degree : + 4.0
Rack travel in mm: 4.10 Tolerance mm: + 0.10 Del. quantity	+ RATED SPEED + rack travel mm : 13.70
cm3/1000 strokes : 17.0 Tolerance	Rated speed rpm : 1115 Tolerance 1/min : +- 5
cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0	+ Check + speed 1/min : + 10
cm3/1000S. : +- 6.0 Spreed Tolerance	ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : 8.0 - Check tolerance	Rated speed rpm : 1070 rack travel mm : 13.70
	Rated speed rpm : 1102 Tolerance 1/min : +- 4
(B) SETTING OF INJECTION PUMP - WITH GOVERNOR -	rack travel mm : 4.00
	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1300
GUIDE SLEEVE POSITION	Nated speed (pii) . 1300
control lever - 3 -	Rated speed rpm : 1071 rack travel mm : 13.70
Rated speed rpm : 800 -	Rated speed rpm : 1103 Tolerance 1/min : + 4 rack travel mm : 4.00
Tolerance mm : +- 0.20	rack travel mm : 4.00 rack travel mm : 0.85
governor spring - pre-tension - click setting x : 1.50 -	Tolerance mm : +- 0.55 Rated speed rpm : 1300

Rated speed rpm rack travel mm	: 1072 : 13.70	‡
Rated speed rpm Tolerance 1/min rack travel mm	: 1104 : +- 4 : 4.00	T + +
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55 : 1300	+
Rated speed rpm rack travel mm	: 1073 : 13.70	+
Rated speed rpm Tolerance 1/min rack travel mm	: 1105 : ← 4 : 4.00	I
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 1300	+
Rated speed rpm rack travel mm	: 1074 : 13.70	+
Rated speed rpm Tolerance 1/min rack travel mm	: 1106 : +- 4 : 4.00	+++++++++++++++++++++++++++++++++++++++
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : ← 0.55 : 1300	+
Rated speed rpm rack travel mm	: 1075 : 13.70	+++++++++++++++++++++++++++++++++++++++
Rated speed rpm Tolerance 1/min rack travel mm	: 1107 : ← 4 : 4.00	+
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : ← 0.55 : 1300	+++++++++++++++++++++++++++++++++++++++
LOW IDLE		‡
control lever position degree tolerance degree	: 70.0 : +- 4.0	+++++
Setting point w/o	ut bumper spring	Ŧ
	100	T

Testing:

Rated speed rpm	: 600
rack travel mm	: 4.10
Tolerance mm	: + 0.10
rack travel mm	: 2.00
Rated speed rpm	: 630
Tolerance 1/min	: + 30

SET IDLE AUXILIARY SPRING

rack travel	mm	:	2.00
-------------	----	---	------

Rated speed rpm : 1075

rack travel mm	: 14.70
Tolerance mm	: ← 0.05
Rated speed rpm	: 800
rack travel mm	: 15.60
Tolerance mm	: ← 0.10
Rated speed rpm	: 1000
rack travel mm	: 15.00
Tolerance mm	: ← 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

TORQUE CONTROL

SETTING

SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1200 : 15.60 : + 0.10
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 9.90 : + 0.20
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa	: 400

rack travel mm : 11.70
Tolerance mm : + 0.05

Pressure hPa : 600
rack travel mm : 13.90
Tolerance mm : + 0.20

Rated speed rpm : 100

CRT mm min. : > 19.50

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 800
Del. quantity
cm3/1000 strokes : 319.0

cm3/1000 strokes : 379.0

loterance

cm3/1000 strokes : \leftarrow 3.0

Check tolerance

cm3/1000s. : +- 6.0

rack travel mm : 15.00 Tolerance mm : + 0.10

Aneroid pressure

hPa : Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 155.0

Tolerance cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 16.50
Tolerance mm : + 0.25
Del. quantity
cm3/1000 strokes : 320.0
Tolerance
cm3/1000 strokes : + 15.0
Check tolerance
cm3/1000s. : + 19.0

LOW IDLE

Rated speed rpm : 600

Rack travel in mm : 4.10
Tolerance mm : + 0.10
Del. quantity
cm3/1000 strokes : 17.0
Tolerance
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000s. : + 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 17.06.98 : ISO 4113 Edition Test oil

Combination No. : 0 402 746 957

Injection pump

Pump designation : PES6P120A720RS7292

: -1

EP type number : 0 412 726 939

Governor

Governer design. : RQV350...1150PA1074

: -2K

: -2K Governer no. : 0 421 815 367

Cust. part No. : 0250741002

Customer—spec. information Customer : MB-NFZ : 0M366LA : 157.0 Motor Power KW

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 4
Tolerance °C : +-2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar $: \leftarrow 0.1$

Overflow quantity min. L/h : 100 Tolerance L/h : + 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar

Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.00 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : ← 0.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : \leftarrow 0.50

Check

tolerance "NW : \leftarrow 0.75

Start of delivery blocking

°N₩ after s.o.d. : 3.30 Tolerance : \leftarrow 0.10

Check

tolerance "NW : **←** 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150	guide sleeve travel mm : 5.56 Tolerance mm : + 0.25
Rack travel in mm : 14.10 Tolerance mm : + 0.05	Rated speed rpm : 550 guide sleeve travel mm : 3.17
Del. quantity cm3/1000 strokes : 269.0	Tolerance mm : + 0.25
Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 1480 guide sleeve travel mm : 13.50 Tolerance mm : +- 0.50
Check tolerance cm3/1000s. : + 4.0	GUIDE SLEEVE POSITION
Spreed	30102 322242 1 33111314
Tolerance cm3/1000 strokes : 8.0	control lever position degree : - 1 Rated speed rpm : 1331
Check tolerance cm3/1000s. : 12.0	Rack travel in mm : 13.50 Tolerance mm : + 1.30
Rated speed rpm : 350	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm: 6.00 Tolerance mm: + 0.10 Del. quantity	Rated speed rpm : 1150 Aneroid pressure hPa : 1500
cm3/1000 strokes : 13.0	Del. quantity cm3/1000 strokes : 269.0
cm3/1000 strokes : + 3.0 + Check tolerance +	Tolerance cm3/1000 strokes : +- 1.0
cm3/1000s. : + 6.0 + Spreed + Tolerance +	Check tolerance cm3/1000S. : +- 4.0 Spreed
cm3/1000 strokes : 4.0 + Check tolerance	Tolerance cm3/1000 strokes : 8.0
cm3/1000s. : 8.0	Check tolerance cm3/1000s. : 12.0
(B) SETTING OF INJECTION PUMP WITH GOVER#OR	CONTROL LEVER
GUIDE SLEEVE TRAVEL	control lever
Rated speed rpm : 1206	position degree : 109.0 tolerance degree : +- 4.0
guide steeve + 9.35	RATED SPEED
rolerance mm : + 0.15 + Rated speed rcm : 350 +	rack travel mm : 13.10 Rated speed rpm : 1195 Tolerance 1/min : - 5
Rated speed rpm : 350 + guide sleeve + travel mm : 1.53 +	rack travel mm : 4.00
Tolerance mm : + 0.20	Rated speed rpm : 1325 Tolerance 1/min : + 15
Rated speed rpm : 855	(2.5) and (7.11)

rack travel mm Tolerance mm Rated speed rpm	: 0.70 : +- 0.70 : 1400
LOW IDLE	
control lever position degree tolerance degree	: 65.0 : ← 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 250
CRT mm min.	: > 6.90
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 6.00 : + 0.10
Rated speed rpm	: 400
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 14.10 : +- 0.05 : 950
rack travel mm Tolerance mm	: 13.95 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.30 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1150 : 1500 : 14.10 : ← 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1150 : - : 10.10 : + 0.15

marca opeca .p	
Pressure hPa rack travel mm Tolerance mm	: 400 : 10.90 : +- 0.05
Pressure hPa rack travel mm Tolerance mm	: 850 : 12.50 : ← 0.15
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 270
Check speed 1/min	: > 80
Check speed 1/min	: < 290
Aneroid pressure	
hPa Rated speed rpm	
rack travel mm Tolerance mm Del. quantity	: 13.30 : +- 0.10
cm3/1000 strokes Tolerance	: 265.0
cm3/1000 strokes Check tolerance	: +- 2.0
cm3/1000S. Spreed	:
Tolerance cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 12.0
Aneroid pressure	
Rated speed rpm	: 500
Del. quantity cm3/1000 strokes Tolerance	: 120.0
cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000s.	: +- 4.0

STARTING FUEL DELIVERY

Set starting CRT at K-cam.

Rated speed rpm : 1150

MEASUREMENT

MO1

Rated speed rpm	:		100
rack travel mm	:		13.50
Tolerance mm	:	+-	0.20
Del. quantity			
cm3/1000 strokes	:		150.0
Tolerance			
cm3/1000 strokes	:	+-	15.0
Check tolerance			
cm3/1000s.	:	+-	19.0

LOW IDLE

Rated speed rpm	:	350	
10 to tall to the	: +-	6.00 0.10	
Del. quantity cm3/1000 strokes Tolerance	•	13.0	
cm3/1000 strokes Check tolerance	: +-	3.0	
cm3/1000s. Spreed	: +-	6.0	
Tolerance cm3/1000 strokes Check tolerance	:	4.0	
cm3/1000s.	:	8.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.06.98 Test oil : ISO 4113

Combination No. : 0 402 776 836

Injection pump

Pump designation : PES6P120A720LS7415 EP type number : 0 412 726 958

Governor

Governer design. : RSV350...1000P0A634

Governer no. : 0 421 833 542

Cust. part No. : 0260741602

Customer—spec. information
Customer : MB-NFZ
Motor : 0M447 LA
Power KW : 265.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40Tolerance °C : \leftarrow 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 115 Tolerance l/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Firing order : _6- 2- 4- 1- 5-

: 3

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance °NW : \leftarrow 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 980

ck travel in mm · 13 40

Rack travel in mm : 13.40Tolerance mm : $\leftarrow 0.05$

+	Aneroid pressure
Del. quantity cm3/1000 strokes : 251.0	hPa : 1400 Del. quantity
Tolerance	cm3/1000 strokes : 231.0 Tolerance
cm3/1000 strokes : + 1.0	cm3/1000 strokes : +- 1.0 Check tolerance
Check tolerance cm3/1000s. : + 4.0	cm3/1000s. : +- 4.0 Spreed Tolerance
Spreed	cm3/1000 strokes : 5.0 Check tolerance
Tolerance cm3/1000 strokes : 5.0	cm3/1000s. : 9.0
Check tolerance cm3/1000s. : 9.0	CONTROL LEVER
750	control lever position degree : 97.0
Rated speed rpm : 350	tolerance degree : +- 4.0
Rack travel in mm: 5.30 + Tolerance mm: + 0.10 + Del. quantity cm3/1000 strokes: 17.0 + Tolerance mm: + 0.10	RATED SPEED rack travel mm : 12.40 Rated speed rpm : 1045 Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : + 3.0 + Check tolerance +	rack travel mm : 4.00 Rated speed rpm : 1120
cm3/1000S. : +- 6.0 +-	Tolerance 1/min : +- 15
Tolerance + cm3/1000 strokes : 8.0 + Check tolerance + cm3/1000 strokes : 8.0 + cm3/1000 strokes	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1300
cm3/1000s. : 12.0	Nated Speed (p.m.). 1888
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	FOR IDE
Ţ	control lever
GUIDE SLEEVE POSITION	position degree : 73.0 tolerance degree : + 4.0
control lever position degree : - 3	Testing:
Rated speed rpm : 800	Rated speed rpm : 350 rack travel mm : 5.30
Rack travel in mm: 0.50 Tolerance mm: + 0.20	Tolerance mm : +- 0.10
governor spring pre-tension +	rack travel mm : 2.00 Rated speed rpm : 395 Tolerance 1/min : +- 30
click setting x : 3.00	SET IDLE AUXILIARY SPRING
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 2.00
Rated speed rpm : 980	

MO4

TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 980 : 13.40 : +- 0.05	
Rated speed rpm rack travel mm Tolerance mm	: 500 : 15.50 : + 0.10	
Rated speed rpm rack travel mm Tolerance mm	: 850 : 14.00 : + 0.05	
Rated speed rpm rack travel mm Tolerance mm	: 700 : 14.90 : ← 0.10	
ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1400 : 15.50 : +- 0.10	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 10.30 : + 0.10	
MEASUREMENT		
Rated speed rpm	: 500	
Pressure hPa rack travel mm Tolerance mm	: 750 : 14.55 : ← 0.10	
Pressure hPa rack travel mm Tolerance mm	: 400 : 11.10 : ← 0.05	
FUEL DELIVERY CHARACTERISTICS		
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1400 : 500	
cm3/1000 strokes Tolerance cm3/1000 strokes		

Check tolerance cm3/1000s.	: ← 5.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	
Check tolerance cm3/1000s.	: +- 4.0
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity	: 100 : 16.25 : + 0.25
cm3/1000 strokes Tolerance	: 275.0
cm3/1000 strokes Check tolerance	: +- 10.0
cm3/1000S.	: +- 14.0
LOW IDLE	
Rated speed rpm	: 350
Rack travel in mm Tolerance mm Del. quantity	: 5.30 : + 0.10
cm3/1000 strokes Tolerance	: 17.0
cm3/1000 strokes Check tolerance	: +- 3.0
cm3/1000s. Spreed	: +- 6.0
	: 8.0
Check tolerance cm3/1000s.	: 12.0
End of test speci	£:

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.06.98 Test oil : ISO 4113

Combination No. : 0 402 846 302

Injection pump

Pump designation : PE6P120A320RS8520

EP type number : 0 412 826 202

Governor

Governer design. : RQV275...1000PA1269K

Governer no. : 0 421 815 969

Cust. part No. : 1310222/2

Customer-spec. information

Customer : DAF

Motor

: XF 355 M

Power KW

: 355.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 110 Tolerance l/h : + 20.0

Test nozzle holde assembly

: 1 688 901 105

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

M06

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3 x length mm : 600

3.0

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.85
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 10.50

Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing

: 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance °NW : + 0.75

Start of delivery mark

Tolerance

: + - 0.10

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 14.05

Tolerance mm : \leftarrow 0.05

		+
Del. quantity cm3/1000 strokes	: 344.0	
Tolerance cm3/1000 strokes	: + 1.0	+
Check tolerance cm3/1000s.	: +- 5.0	Ŧ
Spreed		Ŧ
Tolerance cm3/1000 strokes	: 8.0	+
Check tolerance cm3/1000S.	: 13.0	+++++++++++++++++++++++++++++++++++++++
		+
Rated speed rpm	: 275	+
Rack travel in mm	: 6.00	İ
Tolerance mm	: + 0.10	+
Del. quantity cm3/1000 strokes	: 14.5	†
Tolerance	. 14.3	Į
cm3/1000 strokes	: ← 3.0	+
Check tolerance cm3/1000s.	: +- 6.0	‡
Spreed		+
Tolerance cm3/1000 strokes	: 6.0	İ
Check tolerance		Ţ
cm3/1000s.	: 12.0	+
(B) SETTING OF INJUNITH GOVERNOR	ECTION PUMP	+++++++++++++++++++++++++++++++++++++++
GUIDE SLEEVE TRAVE	-	+
Rated speed rpm	: 1058	Ŧ
guide sleeve travel mm	: 9.97	<u> </u>
Tolerance mm	: ← 0.15	Ŧ
Rated speed rpm	: 275	‡
guide sleeve travel mm	: 2.04	İ
Tolerance mm	: +- 0.20	Ŧ
Rated speed rpm : guide sleeve	: 399	Ī
travel mm :	3.65	+
Tolerance mm	: +- 0.25	<u>†</u>
Rated speed rpm	1260	Ī

guide sleeve travel mm Tolerance mm	: 13.50 : +- 0.50
GUIDE SLEEVE POSI	ITION
Rated speed rpm	: 1121
Rack travel in mm Tolerance mm	1: 13.30 : +- 1.30
FULL LOAD DELIVER	RY AT FULL LOAD STOP
Rated speed rpm Aneroid pressure	: 980
hPa	: 1500
Del. quantity cm3/1000 strokes	: 344.0
Tolerance cm3/1000 strokes	
Check tolerance	
cm3/1000s. Spreed	: ← 5.0
Tolerance	0.0
cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 13.0
CONTROL LEVER control lever position degree tolerance degree	: 118.0 : +- 4.0
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min Check speed 1/min	
rack travel mm	: 4.00
Rated speed rpm	: 1140
Tolerance 1/min Check	: +- 15
speed 1/min	: +- 20
rack travel mm Tolerance mm Rated speed rpm	: 0.70 : ← 0.70 : 1275
LOW IDLE	

control lever position degree tolerance degree	: 73.0 : + 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 175
CRT mm min.	: > 7.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : 6.00 : ← 0.10
Rated speed rpm	: 300
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 980 : 14.05 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.80 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 700 : 13.40 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 600 : 12.80 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 500 : 12.45 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 980 : 14.30 : ← 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 980 : 1500 : 14.05 : +- 0.05

Rated speed rpm	: 980
Pressure hPa	: -
rack travel mm	: 9.00
Tolerance mm	: +- 0.10
MEASUREMENT	
Rated speed rpm	: 980
Pressure hPa	: 750
rack travel mm	: 12.80
Tolerance mm	: + 0.05
Pressure hPa	: 380
rack travel mm	: 10.30
Tolerance mm	: + 0.15

FUEL DELIVERY CHARACTERISTICS

TOEL DELIVERY CHA	RACIERISIICS
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: 1500 : 750 : 13.80 : + 0.05 : 361.0
cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000s. Spreed	: +- 6.0
Tolerance cm3/1000 strokes Check tolerance	: 10.0
cm3/1000s.	: 15.0
Aneroid pressure	· · · · · · · · · · · · · · · · · · ·
hPa Rated speed rpm	600
Del. quantity cm3/1000 strokes	: 199.0
Tolerance cm3/1000 strokes	: +- 1.0

(IFQ)	•		_
Rated speed rpm	:		600
Del. quantity			
cm3/1000 strokes	:		199.0
Tolerance			
cm3/1000 strokes	:	+-	1.0
Check tolerance			
cm3/1000s.	:	+	5.0
Spreed			
Tolerance			
cm3/1000 strokes	:		10.0
Check tolerance			
cm3/1000s.	:		15.0

LOW IDLE

Rated speed rpm	:		275
Rack travel in mm Tolerance mm Del. quantity	-	+-	6.00 0.10
cm3/1000 strokes	:		14.5
cm3/1000 strokes Check tolerance	:	+	3.0
cm3/1000s. Spreed	:	+	6.0
Tolerance cm3/1000 strokes Check tolerance	:		6.0
cm3/1000s.	:		12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.04.98 Test oil : ISO 4113

Combination No. : 0 402 946 013

Injection pump

Pump designation : PES6P120A320RS8028 EP type number : 0 412 926 021

Governor

Governer design. : RQV275...1250PA1189K

Governer no. : 0 421 815 974

Cust. part No. : CCEP 5146A 66-220

Customer-spec. information

Customer : RENAULT V.I.
Motor : MIDR 06.02.26Y41

Motor

Power KW : 184.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 : +- 2.0 40 Tolerance °C

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.00 Tolerance mm : + 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm : 11.00 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

*NW after s.o.d. : -0.25 Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

21.00

and maximum rack

: 11.00 travel Difference ° CS : 2.25

4	Rated speed rpm : 275
CRT ZERO PUSITION	- guide sleeve - travel mm : 1.10 - Tolerance mm : +- 0.25
Rack travel in mm : 14.40 - Tolerance mm : + 0.05 -	- Rated speed rpm : 912 - guide sleeve - travel mm : 6.79
BASIC SETTING	Tolerance mm : +- 0.25
Rated speed rpm : 1250	- Rated speed rpm : 412 - guide sleeve - travel mm : 2.53
Del. quantity cm3/1000 strokes : 276.0	- Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes : + 1.0	- Rated speed rpm : 462 - guide sleeve - travel mm : 3.16
Check tolerance cm3/1000s. : + 4.0	- Tolerance mm : +- 0.25 - - Rated speed rpm : 550
Spreed	- guide sleeve - travel mm : 3.97
Tolerance 5.0	- Tolerance mm : +- 0.25 - - Rated speed rpm : 1630
Check tolerance cm3/1000s. : 9.0	- guide sleeve - travel mm : 13.50 - Tolerance mm : +- 0.50
Rated speed rpm : 275	- GUIDE SLEEVE POSITION
Rack travel in mm: -7.60 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 47.0	control lever position degree : - 1 Rated speed rpm : 1420
Tolerance cm3/1000 strokes : + 2.0 check tolerance	Rack travel in mm : 13.50 Tolerance mm : +- 1.50
cm3/1000S. : + 6.0 + 5preed + 7olerance + 6.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : 8.0 + Check tolerance +	- Rated speed rpm : 1250 - Aneroid pressure - hPa : 1600
cm3/1000S. : 12.0	Del. quantity cm3/1000 strokes : 276.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	- Tolerance - cm3/1000 strokes : +- 1.0 - Check tolerance
GUIDE SLEEVE TRAVEL	- cm3/1000S. : +- 4.0 - Spreed
Rated speed rpm : 1332 + guide sleeve +	- Tolerance - cm3/1000 strokes : 5.0 - Check tolerance
travel mm : 10.07 Tolerance mm : + 0.25	cm3/1000s. : 9.0

CONTROL LEVER

control lever

position degree : 303.0 tolerance degree : + 4.0

RATED SPEED

rack travel mm : -1.00
Rated speed rpm : 1325
Tolerance 1/min : + 15

rack travel mm : -10.40
Rated speed rpm : 1480
Tolerance 1/min : + 5

rack travel mm : -13.90Tolerance mm : +-0.50Rated speed rpm : 1600

LOW IDLE

control lever

position degree : 252.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 175

CRT mm min. : < -6.90

Testing:

Rated speed rpm : 275 rack travel mm : -7.60 Tolerance mm : +-0.10

Rated speed rpm : 380

TORQUE CONTROL

Rated speed rpm : 1250

Rated speed rpm : 800 rack travel mm : -0.75 Tolerance mm : +- 0.10

Rated speed rpm : 350 rack travel mm : -4.10 Tolerance mm : +0.25

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1250Pressure hPa : 1600Tolerance mm : $\leftarrow 0.10$

Rated speed rpm : 1000
Pressure hPa : rack travel mm : -4.40
Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 1250

Pressure hPa : 240 rack travel mm : -3.60 Tolerance mm : + 0.20

Pressure hPa : 480 rack travel mm : -1.60 Tolerance mm : +- 0.05

Start interlock

Rated speed rpm : > 175 Rated speed rpm : < 240

Check

speed 1/min : > 155 Check speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1600 Rated speed rpm : 800 Del. quantity

cm3/1000 strokes : 287.0 Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance cm3/1000s. : +- 6.0

rack travel mm : -4.10 Tolerance mm : + 0.25

Aneroid pressure

hPa Rated speed rpm : 1000

Del, quantity

cm3/1000 strokes : 181.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : **←** 4.0

STARTING FUEL DELIVERY

100 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 95.0

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance

cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm : 275

Rack travel in mm: -7.60 : **←** 0.10

Tolerance mm Del. quantity

cm3/1000 strokes : 47.0

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000s. : +- 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 02.06.98 : ISO 4113

Combination No. : 0 403 246 059

Injection pump

Pump designation : PES6MW100/720RS1526

EP type number : 0 413 206 025

Governor

Governer design. : RQV300...1300MW145

Governer no. : 0 420 083 317

Cust. part No. : 0270741002

Customer-spec. information : MB-NFZ Customer : 0M366LA Motor

Power KW

: 125.0

TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve

: 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar

: +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0

Tolerance bar : +- 1.0

Prestroke mm 4.55 : +- 0.05

Tolerance mm Check

tolerance mm : +- 0.10

Rack travel in mm : 21.00

: 1-5-3-6-2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

: +- 0.75 tolerance °NW

BASIC SETTING

Rated speed rpm : 1300

11.90 Rack travel in mm :

: +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 98.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s.

: + 3.0

Spreed

+	- Tolerance mm : +- 0.50
Tolerance cm3/1000 strokes : 4.5	
Check tolerance	- GUIDE SLEEVE POSITION
cm3/1000s. : 7.0	- - control lever - position degree : 110
	- Rated speed rpm : 1500
Rated speed rpm : 300	- Rack travel in mm : 10.00
Rack travel in mm: 4.30 Tolerance mm: : + 0.10	- Tolerance mm : +- 2.00 -
Del. quantity cm3/1000 strokes : 12.0 Tolerance	- FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : + 2.0 Check tolerance	- Rated speed rpm : 1300 - Aneroid pressure
cm3/1000S. : +- 4.5	- hPa : 1000 - Del. quantity
Tolerance cm3/1000 strokes : 2.0	- cm3/1000 strokes : 98.0 - Tolerance
Check tolerance cm3/1000s. : 4.0	- cm3/1000 strokes : +- 1.0 - Check tolerance
	- cm3/1000S. : +- 3.0 - Spreed
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance cm3/1000 strokes : 4.5
	- Check tolerance - cm3/1000S. : 7.0
GUIDE SLEEVE TRAVEL	•
Rated speed rpm : 1353 + guide sleeve +	- CONTROL LEVER
travel mm : 6.70	•
Tolerance mm : +- 0.15	control lever position degree : 100.0
Rated speed rpm : 300 + guide sleeve + -	tolerance degree : +- 4.0
travel mm : 1.01 + Tolerance mm : + 0.20 +	RATED SPEED : 10.90
+	Rated speed rpm : 1345
Rated speed rpm : 1090 guide sleeve	Tolerance 1/min : +~ 5
travel mm : 4.70 + Tolerance mm : + 0.25 +	rack travel mm : 4.00 Rated speed rpm : 1460
Rated speed rpm : 690	Tolerance 1/min : + 15
guide sleeve	rack travel mm : 0.50
travel mm : 2.97 + Tolerance mm : + 0.25 +	Tolerance mm : +- 0.50 Rated speed rpm : 1550
+	Rated speed Ipin . 1990
Rated speed rpm : 1683 guide sleeve	•
travel mm : 12.00 + Tolerance mm : + 0.25	LOW IDLE
Rated speed rpm : 1780 guide sleeve	control lever
travel mm : 13.50	position degree : 55.0

tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 200 CRT mm min. :> 4.80Testing: 300 Rated speed rpm : rack travel mm : 4.30 Tolerance mm : + 0.10 TORQUE CONTROL Rated speed rpm : 1300 rack travel mm : 11.90 Tolerance mm : + 0.05 Rated speed rpm : 750 rack travel mm : 11.90 Tolerance mm : + 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING CRT ZERO POSITION Rack travel in mm : 10.15 Tolerance mm : + 0.10 Rated speed rpm : 500 Pressure hPa : 1000 rack travel mm : 11.90 Tolerance mm : ± 0.05 11.90 Rated speed rpm : 500 Pressure hPa Tolerance mm : +- 0.10 MEASUREMENT Rated speed rpm : 500 Pressure hPa : 350 rack travel mm : 1.30 Tolerance mm : + 0.10 Pressure hPa : 250 rack travel mm : 0.65 Tolerance mm : + 0.10

Rated speed rpm Rated speed rpm	: > 100 : < 220
Check speed 1/min Check	: > 80
speed 1/min	: < 240
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1000 : 750 : 92.0 : +- 1.5
Check tolerance cm3/1000S. Spreed	: +- 4.0
Folerance cm3/1000 strokes Check tolerance cm3/1000s.	: 6.0 : 9.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 61.0 : + 1.0 : + 3.0
STARTING FUEL DEL	IVERY
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 125.0 : + 5.0 : + 8.0
LOW IDLE	· - · · · · · · · · · · · · · · · · · ·
Rated speed rpm	: 300
Rack travel in mm Tolerance mm	: 4.30 : +- 0.10

Start interlock

Del. quantity
cm3/1000 strokes : 12.0
Tolerance
cm3/1000 strokes : + 2.0
Check tolerance
cm3/1000s. : + 4.5
Spreed
Tolerance
cm3/1000 strokes : 2.0
Check tolerance
cm3/1000s. : 4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 23.06.98 : ISO 4113

Combination No. : 0 400 876 434

Injection pump

Pump designation : PES6A95D410RS2864 EP type number : 0 410 896 888

Governor

Governer design. : RSV400...1050A8C2263

: -11L

Governer no.

: 0 420 232 635

Cust. part No. : 87 801 607

Customer-spec. information

Customer

: NH

Motor

: P 396

Power KW

: 176.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C

40

Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar

: +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.60 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance °NW : **←** 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.75

Tolerance mm : +- 0.10

Del. quantity + cm3/1000 strokes : 137.0 +	Aneroid pressure hPa : 1200
	Del. quantity
Tolerance + cm3/1000 strokes : + 1.0 +	cm3/1000 strokes : 137.0 Tolerance
Check tolerance	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000s. : +- 3.0	cm3/1000S. : +- 3.0 Spreed
Spreed	Tolerance : 3.5
Tolerance cm3/1000 strokes : 3.5	Check tolerance cm3/1000S. : 8.0
	tiis/10005 6.0
Check tolerance + cm3/1000s. : 8.0 +	
	CONTROL LEVER
Pated aread area (FO	control lever
Rated speed rpm : 450	position degree : 98.0 tolerance degree : +- 4.0
Rack travel in mm : 5.50	
Tolerance mm : + 0.10 + Del. quantity +	ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : 12.0	MASSEMBLI GOVERNON SELLTING
Tolerance +	Rated speed rpm : 1095
cm3/1000 strokes : + 2.0 +	rack travel mm : 10.60
Check tolerance + 4.5 + 4.5	Rated speed rpm : 1165
Spreed +	Tolerance 1/min : +- 5
Tolerance +	rack travel mm : 4.00
cm3/1000 strokes : 5.5	
Check tolerance	rack travel mm : 0.85
cm3/1000s. : 9.0 ±	Tolerance mm : +- 0.55 Rated speed rpm : 1300
1	nated speed (piii . 1500
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR +	Rated speed rpm : 1096
1	rack travel mm : 10.60
	Rated speed rpm : 1166
GUIDE SLEEVE POSITION +	Tolerance 1/min : +- 5
†	rack travel mm : 4.00
control lever	rack travel mm : 0.85
position degree : - 3	Tolerance mm : +- 0.55
Rated speed rpm : 809	Rated speed rpm : 1300
+	
Rack travel in mm: 0.50	Pated apped ppm · 1007
Tolerance mm : + 0.20	Rated speed rpm : 1097 rack travel mm : 10.60
governor spring	
pre-tension +	Rated speed rpm : 1167
click setting x : 4.50	Tolerance 1/min : +- 5
<u> </u>	rack travel mm : 4.00
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 0.85
+	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1300
Rated speed rpm : 700 +	Rated speed rpm : 1300

Rated speed rpm rack travel mm	: 1098 : 10.60	Rated speed rpm : 500 rack travel mm : 13.80 Tolerance mm : + 0.10
Rated speed rpm Tolerance 1/min rack travel mm	: 1168 : + 5	Rated speed rpm : 1050 rack travel mm : 11.20 Tolerance mm : + 0.05
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 1300	Rated speed rpm : 1050 rack travel mm : 12.00 Tolerance mm : + 0.10
Rated speed rpm rack travel mm	: 1099 : 10.60	ANEROID/ALTITUDE COMPENSATOR TEST
Rated speed rpm Tolerance 1/min rack travel mm	: 1169	SETTING
rack travel mm	: 0.85 : + 0.55 : 1300	Rated speed rpm : 500 Pressure hPa : 1200 rack travel mm : 13.80 Tolerance mm : + 0.10
Rated speed rpm : rack travel mm :	: 1100 : 10.60	Rated speed rpm : 500 Pressure hPa : - rack travel mm : 11.00 Tolerance mm : + 0.05
Rated speed rpm : Tolerance 1/min : rack travel mm :	: 1170 : + 5 : 4.00	MEASUREMENT Rated speed rpm : 500
	: 0.85 : +- 0.55 : 1300	Pressure hPa : 700 rack travel mm : 12.85 Tolerance mm : +- 0.05
LOW IDLE	+	Pressure hPa : 600 rack travel mm : 11.90
control lever position degree : tolerance degree : Testing:	: 78.0 : +- 4.0	Tolerance mm : + 0.20 FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : rack travel mm :	: 450 : 5.50 : +- 0.10	Aneroid pressure hPa : - Rated speed rpm : 500
rack travel mm : Rated speed rpm : Tolerance 1/min :	2.00 585 +- 30	Del. quantity cm3/1000 strokes : 98.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
TORQUE CONTROL Rated speed rpm : rack travel mm : Tolerance mm :	700 : 13.75 : + 0.10	cm3/1000S. : + 3.0 STARTING FUEL DELIVERY

Rated speed rpm	:		100
rack travel mm	:		20.25
Tolerance mm	:	+	0.75
Del. quantity			
cm3/1000 strokes	:		164.0
Tolerance			
cm3/1000 strokes	:	+-	8.0
Check tolerance			
cm3/1000s.	:	+-	11.0

LOW IDLE

Rated speed rpm : 450 5.50 Rack travel in mm : Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 12.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 26.02.98 Edition : ISO 4113 Test oil

Combination No. : 0 402 034 702

Injection pump

Pump designation : PES4P120B120RS3379 EP type number : 0 412 024 702

Governor

Governer design. : RQV475...1250PA1380K

Governer no. : 0 421 815 560

Cust. part No. : 3933367

Customer-spec. information : CDC Customer : 4BTA-A Motor : 82.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

40 temp. °C Tolerance °C : +-2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : +- 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

bar 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 3.60 Tolerance mm : + 0.05 Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-3-4-2

: 0-90-180-270 : +- 0.50 Phasing

Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00 : +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 10.15 Tolerance mm : ← 0.05

Del. quantity cm3/1000 strokes	: 118.5	† Tolerance mm	: ← 0.25
Tolerance		+ Rated speed rpm + guide sleeve	: 1660
cm3/1000 strokes	: ← 1.0	† travel mm † Tolerance mm	: 13.50 : +- 0.50
Check tolerance cm3/1000S.	: +- 4.0	FILL LOAD DELTHE	AT FILL LOAD CTOD
Spreed		+	RY AT FULL LOAD STOP
Tolerance		+ Rated speed rpm	: 1250
cm3/1000 strokes	: 8.0	Aneroid pressure hPa Del. quantity	: 350
Check tolerance cm3/1000s.	: 12.0	cm3/1000 strokes Tolerance	: 118.5
CHS/ 10003.	. 12.0	cm3/1000 strokes Check tolerance	: +- 1.0
		+ cm3/1000s.	: +- 4.0
Rated speed rpm	: 475	Spreed	··•
		+ Tolerance	
Rack travel in mm		+ cm3/1000 strokes	: 8.0
Tolerance mm Del. quantity	: +- 0.10	+ Check tolerance + cm3/1000s.	: 12.0
cm3/1000 strokes Tolerance	: 26.5	1 10003.	. 12.0
cm3/1000 strokes	: +- 3.0	I	
Check tolerance	. 5.5	+ CONTROL LEVER	
cm3/1000s.	: ← 5.0	+	
Spreed		+ control lever	447.0
Tolerance cm3/1000 strokes	: 4.0	+ position degree	
Check tolerance	. 4.0	tolerance degree	. +- 4.0
cm3/1000s.	: 8.0	RATED SPEED	
		+ rack travel mm	: 9.10
		+ Rated speed rpm	
(B) SETTING OF INJ	ECTION PUMP	+ Tolerance 1/min	: +- 15
WITH GOVERNOR		rack travel mm	: 4.00
**************************************		Rated speed rpm	
GUIDE SLEEVE TRAVE	EL .	+ Tolerance 1/min	: +- 5
Dahad amaad	. 1710	+ manta Amazanta	. 0.50
Rated speed rpm	: 1312	rack travel mm Tolerance mm Rated speed rpm	: U.DU · +- 0.50
travel mm	9.56	Rated speed rom	: 1500
guide sleeve travel mm Tolerance mm	: ← 0.15	+	
		+	
	: 475	†	
guide sleeve travel mm	: 1.75	LOW IDLE	
Tolerance mm		I LOW IDEC	
TOCOT QUITOC TIME		+	
· · · · · · · · · · · · · · · · · · ·	: 993	+ control lever	
guide sleeve	. =	+ position degree	
	: 6.53	tolerance degree	: 4.U
Tolerance mm	: +- 0.25	Control lever dif	ference
Rated speed rpm guide sleeve	: 680	Grad tolerance degree	: 44.0
	: 3.84	T total ance degree	0.0
	• •	•	

Rated speed rpm : 400 Speed 1/min :> 80	Setting point w/	out bumper spring	† Check
Speed 1/min	Rated speed rpm	: 400	speed 1/min : > 80
Rated speed rpm	CRT mm min.	: > 6.80	
Rated speed rpm 1250	Testing:		EUEL DEL THEON CHARACTERICTICS
Tack travel mm	Rated speed rpm	: 475	+ FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : 550 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 110.5 Tolerance mm : + 0.05 Rated speed rpm : 1250 Rated speed rpm : 10.15 Tolerance mm : + 0.05 Rated speed rpm : 750 Rated speed rpm : 750 Rated speed rpm : 750 Rated speed rpm : 750 Rated speed rpm : 750 Rated speed rpm : 750 Rated speed rpm : 750 Rated speed rpm : 750 Rated speed rpm : 9.75 Tolerance rpm : + 0.10 Rated speed rpm : 550 rack travel mm : 9.45 Tolerance rpm : + 0.20 ANEROID/ALTITUDE COMPENSATOR TEST Rated speed rpm : 1250 Pressure hPa : 350 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Pressure hPa : Rated speed rpm : 100 Rated speed rpm : 1250 Pressure hPa : 0.20 MEASUREMENT Rated speed rpm : 1250 Pressure hPa : 265 Pressure hPa : 265 Pressure hPa : 265 Pressure hPa : 265 Pressure hPa : 265 Pressure hPa : 9.80 Tolerance mm : + 0.50 Del. quantity Cm3/1000S trokes : + 3.0 Tolerance mm : + 0.20 Tolerance mm : + 0.50 Del. quantity Tolerance mm : + 0.50 Tolerance mm : + 0.50 Del. quantity Tolerance mm : + 0.50 Tolerance mm : + 0.50 Del. quantity Rated speed rpm : 1250 Tolerance mm : + 0.50 Del. quantity Rated speed rpm : 1250 Tolerance mm : + 0.50 Del. quantity Tolerance mm : + 0.50 Del. quantity Tolerance mm : + 0.50 Del. quantity Tolerance mm : + 0.50 Del. quantity Tolerance mm : + 0.50 Del. quantity Tolerance mm : + 0.50 Del. quantity Tolerance mm : + 0.50 Del. quantity Tolerance mm : + 0.50 Del. quantity Tolerance mm : + 0.50 Del. quantity Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Del. quantity Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : +	rack travel mm	: 5.50	
Rated speed rpm : 550 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 110.5 Tolerance rmm : + 0.05 Rated speed rpm : 1250 Rated speed rpm : 750 Check tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance rmm : + 0.10 Rated speed rpm : 750 Tolerance rmm : + 0.10 Rated speed rpm : 550 rack travel rmm : 9.45 Tolerance rmm : + 0.20 Tolerance rmm : + 0.20 ANEROID/ALTITUDE COMPENSATOR TEST Rated speed rpm : 1250 Pressure hPa : 350 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 100 Check tolerance cm3/1000s. : + 4.0 Check tolerance cm3/1000s. : + 4.0 Check tolerance cm3/1000s. : + 4.0 Check tolerance cm3/1000s. : + 4.0 Check tolerance cm3/1000s. : + 4.0 Check tolerance cm3/1000s. : + 4.0 Check tolerance cm3/1000s. : + 25.0 Check tolerance cm3/1000s. : + 25.0 Check tolerance cm3/1000s. : + 25.0 Check tolerance cm3/1000s. : + 25.0 Check tolerance cm3/1000s. : + 25.0 Check tolerance cm3/1000s. : + 25.0	Tolerance mm	: +- 0.10	+ Aneroid pressure
TORQUE CONTROL TORQUE CONTROL Rated speed rpm : 1250			+ hPa : 350
TORQUE CONTROL TORQUE CONTROL Rated speed rpm : 10.15 Tolerance mm : + 0.05 Rated speed rpm : 750 rack travel mm : 9.75 Tolerance mm : + 0.10 Rated speed rpm : 750 rack travel mm : 9.75 Tolerance mm : + 0.10 Rated speed rpm : 9.50 rack travel mm : 9.75 Tolerance mm : + 0.10 Rated speed rpm : 550 rack travel mm : 9.45 Tolerance mm : + 0.20 Rated speed rpm : 9.45 Tolerance mm : + 0.20 ANEROID/ALTITUDE COMPENSATOR TEST Aneroid pressure hPa : - Rated speed rpm : 1250 Pressure hPa : 350 Rated speed rpm : 1250 Pressure hPa : 9.00 Tolerance mm : + 0.20 MEASUREMENT Rated speed rpm : 1250 Pressure hPa : 265 rack travel mm : 9.80 Tolerance mm : + 0.50 Pressure hPa : 265 rack travel mm : 9.80 Tolerance mm : + 0.50 Pressure hPa : 265 rack travel mm : 9.80 Tolerance mm : + 0.50 Pressure hPa : 200 Tolerance mm : + 0.50 Pressure hPa : 9.80 Tolerance mm : + 0.50 Pressure hPa : 9.80 Tolerance mm : + 0.50 Pressure hPa : 9.80 Tolerance mm : + 0.50 Pressure hPa : 9.80 Tolerance mm : + 0.50 Pressure hPa : 9.80 Tolerance mm : + 0.50 Pressure hPa : 9.80 Tolerance mm : + 0.50 Pressure hPa : 9.80 Tolerance mm : + 0.50 Pressure hPa : 9.80 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : + 1.0 Tolerance mm : + 0.50 Pressure hPa : 265 rack travel mm : 9.80 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : + 20.0 Check tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000 strokes : + 20.0	Rated speed rpm	: 550	+ Rated speed rpm : 750
Torque Control Tolerance Cm3/1000 strokes : + 3.0 Check tolerance Cm3/1000 strokes : + 3.0 Check tolerance Cm3/1000 strokes : + 3.0 Check tolerance Cm3/1000 strokes : + 3.0 Check tolerance Cm3/1000 strokes : + 6.0 Spreed Tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 12.0 Check tolerance Cm3/1000 strokes : 10.0 Check tolerance Cm3/1000 strokes : 4.0 Check tolerance Cm3/1000 strokes : 4.0 Check tolerance Cm3/1000 strokes : 176.0 Colerance Cm3/1000 strokes : 176.0 C			+ Del. quantity
Rated speed rpm 1250	TODOUS CONTROL		
rack travel mm : 10.15 Tolerance mm : + 0.05 Rated speed rpm : 750 rack travel mm : 9.75 Tolerance mm : + 0.10 Rated speed rpm : 9.75 Tolerance mm : + 0.10 Rated speed rpm : 550 rack travel mm : 9.45 Tolerance mm : + 0.20 Rated speed rpm : 550 rack travel mm : 9.45 Tolerance mm : + 0.20 ANEROID/ALTITUDE COMPENSATOR TEST Aneroid pressure hPa : - Rated speed rpm : 1250 Pressure hPa : 350 Rated speed rpm : 1250 Rated speed rpm : 1250 Pressure hPa : - rack travel mm : 9.00 Tolerance mm : + 0.20 MEASUREMENT Rated speed rpm : 1250 Pressure hPa : 265 rack travel mm : 9.80 Tolerance mm : + 0.50 Pressure hPa : 265 rack travel mm : 9.80 Tolerance mm : + 0.15 Stert interlock Rated speed rpm : 29.40 Tolerance mm : + 0.15 Stert interlock Rated speed rpm : > 100 Rated speed rpm : 250.0 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Pressure hPa : 205 rack travel mm : 21.00 Tolerance rpm : + 0.50 Del. quantity cm3/1000s trokes : + 4.0 Tolerance mm : + 0.50 Del. quantity cm3/1000s trokes : + 20.0 Tolerance rpm : 21.00 Tolerance rpm : + 0.50 Del. quantity cm3/1000s trokes : + 20.0 Check tolerance cm3/1000s trokes : + 25.0 Check tolerance cm3/1000s trokes : + 25.0			
Tolerance mm	raced speed rpm	· 10 15	
Spreed Spreed Tolerance	Tolerance mm	: + 0.05	+ cm3/1000s. : +- 6.0
Rated speed rpm	TO COT UNITED THE		Spreed
rack travel mm : 9.75 Tolerance mm : + 0.10 Rated speed rpm : 550 rack travel mm : 9.45 Tolerance mm : + 0.20 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 9.00 Tolerance mm : + 0.20 MEASUREMENT Rated speed rpm : 1250 Pressure hPa : 265 rack travel mm : 9.80 Tolerance mm : + 0.15 Pressure hPa : 200 rack travel mm : 9.40 Tolerance mm : + 0.15 Start interlock Rated speed rpm : 9.40 Tolerance mm : + 0.15 Start interlock Rated speed rpm : > 100 Check tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s: : + 25.0	Rated speed rpm	: 750	
Rated speed rpm : 550 rack travel mm : 9.45 Tolerance mm : + 0.20 ANEROID/ALTITUBE COMPENSATOR TEST SETTING Rated speed rpm : 1250 Pressure hPa : 350 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 9.00 Tolerance mm : + 0.20 MEASUREMENT Rated speed rpm : 1250 Pressure hPa : 265 rack travel mm : 9.80 Tolerance mm : + 0.50 Del. quantity rack travel mm : 21.00 Tolerance mm : + 0.50 Del. quantity rack travel mm : 9.80 Tolerance mm : + 0.50 Del. quantity rack travel mm : 21.00 Tolerance mm : + 0.50 Del. quantity rack travel mm : 9.80 Tolerance mm : + 0.50 Del. quantity rack travel mm : 9.80 Tolerance mm : + 0.50 Del. quantity rack travel mm : 9.80 Tolerance mm : + 0.50 Del. quantity rack travel mm : 9.80 Tolerance mm : + 0.50 Del. quantity rack travel mm : 9.80 Tolerance mm : + 0.50 Del. quantity rack travel mm : 9.80 Tolerance mm : + 0.50 Del. quantity Low IDLE	rack travel mm	: 9.75	
Rated speed rpm : 550 rack travel mm : 9.45 Tolerance mm : + 0.20 ANEROID/ALTITUBE COMPENSATOR TEST SETTING Rated speed rpm : 1250 Pressure hPa : 350 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Pressure hPa :	Tolerance mm	: +- 0.10	+ Check tolerance
Rated speed rpm			+ cm3/1000s. : 12.0
Tolerance mm : + 0.20	Rated speed rpm	: 550	+
Tolerance mm : + 0.20	rack travel mm	: 9.45	
Tolerance mm : + 0.20	Tolerance mm	: ← 0.20	+ rack travel mm : 9.45
Aneroid pressure hPa : - Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 1250 Rated speed rpm : 9.00 Tolerance rack travel mm : 9.00 Tolerance mm : + 0.20 MEASUREMENT Rated speed rpm : 1250 Pressure hPa : 265 rack travel mm : 21.00 Tolerance mm : + 0.50 Pressure hPa : 265 rack travel mm : 9.80 Tolerance mm : + 0.15 Tolerance cm3/1000 strokes : 176.0 Tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000 strokes : + 25.0 Start interlock Rated speed rpm : > 100			† Tolerance mm : + 0.20
Aneroid pressure	ANERGED /AL TITLINE		
hPa			Anaraid pressure
Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 103.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0	COMPENSATOR TEST		+ Amerora pressure
Del. quantity			
Rated speed rpm : 1250 Pressure hPa : 350 Rated speed rpm : 1250 Rated speed rpm : 1250 Pressure hPa : - rack travel mm : 9.00 Tolerance mm : + 0.20 Rated speed rpm : 1250 MEASUREMENT Rated speed rpm : 1250 Pressure hPa : 265 Pressure hPa : 265 Pressure hPa : 9.80 Tolerance mm : + 0.15 Pressure hPa : 200 Tolerance mm : + 0.15 Pressure hPa : 200 Tolerance mm : + 0.15 Start interlock Rated speed rpm : 200 Check tolerance Cm3/1000 strokes : + 20.0 Check tolerance Cm3/1000s. : + 25.0 Rated speed rpm : 200 Check tolerance Cm3/1000s. : + 25.0 Cm3/1000s. : + 25.0	SETTING		+ Del. quantity
Tolerance			+ cm3/1000 strokes : 103.0
Check tolerance	Rated speed rpm	: 1250	
Rated speed rpm : 1250 Pressure hPa : - rack travel mm : 9.00 Tolerance mm : + 0.20 MEASUREMENT Rated speed rpm : 100 rack travel mm : 21.00 Tolerance mm : + 0.50 Pressure hPa : 265 rack travel mm : 9.80 Tolerance mm : + 0.15 Pressure hPa : 200 rack travel mm : 9.40 Tolerance mm : + 0.15 Start interlock Rated speed rpm : 100 rack travel mm : 21.00 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 176.0 Tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s. : + 25.0 LOW IDLE	Pressure hPa	: 350	
Pressure hPa :			
Tack travel mm	Rated speed rpm	: 1250	+ cm3/1000s. : +- 4.0
Tolerance mm : + 0.20 MEASUREMENT Rated speed rpm : 100 Rated speed rpm : 21.00 Pressure hPa : 265 rack travel mm : 9.80 Tolerance mm : + 0.15 Tolerance mm : + 0.15 Pressure hPa : 200 Pressure hPa : 200 Rated speed rpm : 100 Tolerance mm : + 0.50 Tolerance mm : + 0.15 Tolerance cm3/1000 strokes : 176.0 Tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s. : + 25.0 Start interlock Rated speed rpm : > 100	Pressure hPa	: -	†
MEASUREMENT Rated speed rpm : 1250 Pressure hPa : 265			†
MEASUREMENT Rated speed rpm : 100 Rated speed rpm : 1250 rack travel mm : 21.00 Pressure hPa : 265 Del. quantity rack travel mm : 9.80 ra3/1000 strokes : 176.0 Tolerance mm : + 0.15 Tolerance Pressure hPa : 200 cm3/1000 strokes : + 20.0 rack travel mm : 9.40 cm3/1000s. : + 25.0 Tolerance mm : + 0.15 cm3/1000s. : + 25.0	ioterance mm	: +- U.ZU	CTADTING EHEL DELTHERY
Rated speed rpm : 1250	MEASI IDEMENT		T STAKITING LAST DESTACK!
Tack travel mm 1250	I ICASUNCITICI VI		Rated speed rom · 100
Tolerance mm : + 0.50 Pressure hPa : 265 rack travel mm : 9.80 Tolerance mm : + 0.15 Tolerance cm3/1000 strokes : 176.0 Tolerance cm3/1000 strokes : + 20.0 Check tolerance rack travel mm : 9.40 Tolerance mm : + 0.50 Tolerance mm : + 20.0 Check tolerance cm3/1000s. : + 25.0 Start interlock Rated speed rpm : > 100	Rated speed rom	: 1250	+ rack travel mm : 21.00
Pressure hPa : 265 rack travel mm : 9.80 Tolerance mm : + 0.15 Pressure hPa : 200 Pressure hPa : 200 Pressure mm : 9.40 Tolerance mm : + 0.15 Check tolerance cm3/1000s. : + 25.0 Start interlock Rated speed rpm : > 100		· · · · · · · · · · · · · · · · · · ·	
rack travel mm : 9.80 Tolerance mm : + 0.15 Pressure hPa : 200 rack travel mm : 9.40 Tolerance cm3/1000 strokes : 176.0 Cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s. : + 25.0 Check tolerance cm3/1000s. : + 25.0 Check tolerance cm3/1000s. : + 25.0 Check tolerance cm3/1000s. : + 25.0 Check tolerance cm3/1000s. : + 25.0 Check tolerance cm3/1000s. : + 25.0	Pressure hPa	: 265	Ţ.
Tolerance mm : +- 0.15			
Pressure hPa : 200	Tolerance mm	: +- 0.15	
rack travel mm : 9.40			
Tolerance mm : + 0.15 Start interlock Rated speed rpm : > 100			
Start interlock Rated speed rpm : > 100			† cm3/1000S. : ← 25.0
Rated speed rpm : > 100 + LOW IDLE	iolerance mm	: +- 0.15	‡
Rated speed rpm : > 100 + LOW IDLE	Start interlock		
			+ LOW IDLE
Rated speed rpm : < 395 + Rated speed rpm : 475			†
	Rated speed rpm	: < 395	+ Rated speed rpm : 475

M24

Rack travel in mm Tolerance mm	:	+-	5.50 0.10
Del. quantity cm3/1000 strokes Tolerance	:		26.5
cm3/1000 strokes Check tolerance	:	+	3.0
cm3/1000s.	:	+-	5.0
Spreed Tolerance			
cm3/1000 strokes Check tolerance	:		4.0
cm3/1000S.	:		8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.06.98 Test oil : ISO 4113

Combination No. : 0 403 466 182

Injection pump

Pump designation : PES6MW100/120RS1247

EP type number : 0 413 406 248

Governor

Governer design. : RSV500...1100MW5A412

Governer no. : 0 420 085 303

Cust. part No. : 3935106

Customer-spec. information Customer : CDC Motor : 6 CTA

Power KW : 179.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

40

: 40 : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

Tolerance bar : +- 1.5

: 208.5

Test lines : 1 680 750 008

Outside diameter : 6.0

M26

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

Prestroke mm : 3.20 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300 Tolerance : ← 0.50

Check

tolerance °NW : ← 0.75

Start of delivery blocking

"NW after s.o.d. : 8.50

Tolerance : \leftarrow 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel : 15.00 Difference ° CS : 1.50

BASIC SETTING		<pre>governor spring pre-tension</pre>	
Rated speed rpm :	1100	click setting x	: 3.50
		FULL LOAD DELIVER	Y AT FULL LOAD STOP
ack travel in mm : olerance mm :	13.20 + 0.05	Rated speed rpm Aneroid pressure	: 1100
l. quantity 3/1000 strokes :	163.0	hPa Del. quantity	: 1200
rance 1000 strokes :	4 4.0	cm3/1000 strokes Tolerance	
tolerance	+ 1.0	m3/1000 strokes heck tolerance m3/1000s.	
	+- 4.0	Spreed Tolerance	. +- 4.0
-		cm3/1000 strokes	: 4.0
e strokes :	4.0	cm3/1000s.	: 7.5
ance :	7.5	CONTROL LEVER	
-		control lever	400.0
rpm :	500	position degree tolerance degree	
in mm :	5.35	RATED SPEED	
•	+ 0.10	+ rack travel mm + Rated speed rpm	
:	21.0	+ Tolerance 1/min	
es :	+- 2.0	+ Check + speed 1/min	: ← 10
	+- 4.5	rack travel mm	: 4.00
•		+ Rated speed rpm	: 1260
nkes ·	3.5	† Tolerance 1/min † Check	: ← 5
ince .		speed 1/min	: +- 10
	5.5	t rack travel mm	: 1.00
		+ Tolerance mm	: ← 0.70
OF INJEC	TION PUMP	Rated speed rpm	: 1350
11011		rack travel mm	
		Rated speed rpm Tolerance 1/min	
VE POSITIO	N	+ Check	
		speed 1/min	: +- 20
ol lever	-	+	
degree : ed rpm :	- 3 800	<u> </u>	
·		LOW IDLE	
	0.50	1	

		+ Tolerance mm	: +- 0.20
control lever position degree tolerance degree		Pressure hPa rack travel mm Tolerance mm	: 560 : 11.80
Control lever dif	: 21.0	+	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
tolerance degree		FUEL DELIVERY CHA	ARACTERISTICS
Setting point w/o		‡	
Rated speed rpm	: 500	+ Aneroid pressure	4000
rack travel mm Tolerance mm	: 4.85 : +- 0.10	+ hPa + Rated speed rpm	: 1200
roterance min	. — 0.10	+ Del. quantity	
Rated speed rpm	: 100	cm3/1000 strokes Tolerance	: 170.5
CRT mm min.	: > 19.00	+ cm3/1000 strokes	: +- 2.0
Testing:		+ Check tolerance + cm3/1000s.	: ← 5.0
resemig.		+ Spreed	
Rated speed rpm	: 500	+ Tolerance	
rack travel mm	5.35	cm3/1000 strokes	: 6.0
Tolerance mm	: +- 0.10	theck tolerance cm3/1000s.	: 9.0
		- +	. ,
TORQUE CONTROL	4400	+	
Rated speed rpm	: 1100	+ Aneroid pressure	
rack travel mm Tolerance mm	: +- 0.05	+ hPa + Rated speed rpm	: 500
TOTE ALICE MIN	0.05	Del. quantity	. 500
Rated speed rpm	: 750	+ cm3/1000 strokes	: 119.0
rack travel mm	: 13.55	Tolerance	. 4.5
Tolerance mm	: ← 0.20	+ cm3/1000 strokes + Check tolerance	: + 1.0
Rated speed rpm	: 1000	cm3/1000s.	: +- 3.0
rack travel mm	: 13.55	+	
Tolerance mm	: 0.20	+	
		- STARTING FUEL DEL	_IVERY
ANEROID/ALTITUDE		†	400
COMPENSATOR TEST		+ Rated speed rpm + rack travel mm	
		Tolerance mm	: ← 1.00
SETTING		+ Del. quantity	
Rated speed rpm	. 500	+ cm3/1000 strokes + Tolerance	: 140.0
Pressure hPa		+ cm3/1000 strokes	: ← 10.0
Rated speed rpm	: 500	+ Check tolerance + cm3/1000s.	: +- 13.0
Pressure hPa rack travel mm		†	
rack travel mm Tolerance mm	: 11.05 : +- 0.20	‡	
MEASUREMENT		LOW IDLE	
Rated speed rpm	: 500	Rated speed rpm	: 500
Pressure hPa	: 900	+ Rack travel in mm	n: 5.35
rack travel mm		+ Tolerance mm	
M28			

Del. quantity		
cm3/1000 strokes	:	21.0
Tolerance		
cm3/1000 strokes	: +-	2.0
Check tolerance		
cm3/1000s.	: +-	4.5
Spreed		
Tolerance		
cm3/1000 strokes	:	3.5
Check tolerance		
cm3/1000S.	:	5.5

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.06.98 Test oil : ISO 4113

Combination No. : 0 401 846 996

Injection pump

Pump designation : PE6P12OA32ORS3405 EP type number : 0 411 826 822

Governor

Governer design. : RQ750PA783-1 Governer no. : 0 421 801 432

Cust. part No. : 3828439 P01 v.05.98

Customer—spec. information
Customer : PENTA
Motor : TWD 1211 G
Power Kw : 286.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration

damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.0

Overflow quantity

min. L/h : 215 Tolerance L/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.50
Tolerance mm : + 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: --300

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : + 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

			guide sleeve	
		I	travel mm	: 10.00
Rack travel in mm Tolerance mm	: 12.50 : +- 0.05	Ţ	Tolerance mm	: +- 0.25
			Rated speed rpm	: 880
Del. quantity cm3/1000 strokes	: 306.0	‡	guide sleeve travel mm	: 11.50
			Tolerance mm	: +- 0.50
Tolerance cm3/1000 strokes	: +- 1.0	‡	FILL LOAD DELIVER	Y AT FULL LOAD STOP
Check tolerance		I	TOLL FOND DELIVER	TAT TOLL LOAD STOP
cm3/1000s.	: +- 4.0	‡	Rated speed rpm Aneroid pressure	: 700
Spreed			hPa Del. quantity	: -
Tolerance		1	cm3/1000 strokes	: 306.0
cm3/1000 strokes	: 5.0	1	Tolerance	. 555.5
CIIIS TOOS SELONES	. 5.0	1	cm3/1000 strokes	· + 1.0
Check tolerance			Check tolerance	
cm3/1000S.	: 9.0	1	cm3/1000s.	: +- 4.0
Cai37 10003.	. ,.0	1	Spreed	4.0
	· . · · · · · · · · · · · · · · · · · ·		Tolerance	
		1	cm3/1000 strokes	: 5.0
Rated speed rpm	: 300	1	Check tolerance	. 3.6
Del. quantity	. 300	1	cm3/1000s.	: 9.0
cm3/1000 strokes	: 20.0	1	CIIIS7 10003.	. ,
Tolerance	. 20.0	I		
cm3/1000 strokes	· +- 3 A	I		
Check tolerance	3.0	1	CONTROL LEVER	
cm3/1000s.	: ← 6.0	1	CONTROL LEVER	
Spreed	. , 0.0	I	control lever	
Tolerance		I	position degree	: 88.0
cm3/1000 strokes	: 5.0	I	tolerance degree	
Check tolerance	. 5.0	I	toter ance degree	. 1- 4.0
cm3/1000s.	: 8.0	T	RATED SPEED	
UIIS/ 10003.	. 6.0	T	rack travel mm	: 11.50
		T	Rated speed rpm	
(B) SETTING OF INJ	ECTION DUMO	T	Tolerance 1/min	: +- 3
	ECTION PUMP	T	rocerance minn	. +- 3
WITH GOVERNOR		†	nack that all as	
		†	rack travel mm	
CUITAGE OF STORY OF			Rated speed rpm	
GUIDE SLEEVE TRAVE	L	†	Tolerance 1/min	: +- 15
Dawad amama	. 750	†	maale #marral ===	. 0.50
Rated speed rpm	: 758	†	rack travel mm	: 0.50
guide sleeve travel mm	. 770	Ť	Tolerance mm	; **
Travel mm	: 3.30	T	Rated speed rpm	: 850
Tolerance mm	: +- 0.15	†	ACCEMBLY COVERNOR	CETTING
5	540	†	ASSEMBLY GOVERNOR	SELLING
Rated speed rpm	: 510	†	Data dana ada ana	. 7/0
guide steeve	0.05	†	Rated speed rpm	14.50
guide sleeve travel mm Tolerance mm	: ~8.85 	†	rack travel mm	: 11.50
loterance mm	; +- 0.25	†	Datad annal nee	. 700
D. A. J. J. J. J. J. J. J. J. J. J. J. J. J.	. 070	†	Rated speed rpm	
	: 870	†	Tolerance 1/min	
guide steeve	47.74	†	rack travel mm	: 4.00
guide sleeve travel mm Tolerance mm	: 17.76	+		0.50
Tolerance mm	: ← 0.25	†	rack travel mm	
		+	Tolerance mm	: + 0.50
Rated speed rpm	: 821	+	Rated speed rpm	: 850

Rated speed rpm	: 749
rack travel mm	: 11.50
Rated speed rpm	: 790
Tolerance 1/min	: +- 5
rack travel mm	: 4.00
rack travel mm	: 0.50
Tolerance mm	: ← 0.50
Rated speed rpm	: 850
Rated speed rpm	: 750
rack travel mm	: 11.50
Rated speed rpm	: 791
Tolerance 1/min	: + 5
rack travel mm	: 4.00
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 850
Rated speed rpm	: 751
rack travel mm	: 11.50
Rated speed rpm	: 792
Tolerance 1/min	: + 5
rack travel mm	: 4.00
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 850
Rated speed rpm	: 752
rack travel mm	: 11.50
Rated speed rpm	: 793
Tolerance 1/min	: +- 5
rack travel mm	: 4.00
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 850
Rated speed rpm	: 753
rack travel mm	: 11.50
Rated speed rpm	: 794
Tolerance 1/min	: + 5
rack travel mm	: 4.00
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 850

TORQUE CONTROL		
Rated speed rpm	:	700
rack travel mm	:	12.50
Tolerance mm	; +	- 0.05

LOW I	DLE
-------	-----

Rated speed rpm Del. quantity	:		300
cm3/1000 strokes Tolerance	:		20.0
cm3/1000 strokes Check tolerance	:	+-	3.0
cm3/1000s. Spreed	:	+-	6.0
Tolerance cm3/1000 strokes			5.0
Check tolerance cm3/1000s.	•		8.0
CH3/10003.	٠		0.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 24.06.98 : ISO 4113

Combination No. : 0 402 046 883

Injection pump

Pump designation : PES6P120A1320/5LS339

EP type number : 0 412 026 808

Governor

Governer design. : RQ750PA1387 Governer no.

: 0 421 801 834

Cust. part No. : 1409259

Customer-spec. information

Customer

: SCANIA

Motor

: DSC12 40A

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Tolerance l/h: +-20.0

Test nozzle holde

assembly

: 1 688 901 104

Opening pressure

bar

: 251.5

Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

NO5

x inside diameter: 2.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05

Check

tolerance mm

: **←** 0.10

Rack travel in mm : 28.50

: +- 0.50

Tolerance mm Firing order

: 1-4-2-6-3-

Phasing

: 0-60-120-180-240

: -300

Tolerance

: +- 0.50

Check

tolerance °NW : + 0.75

Start of delivery blocking

Check

Tolerance : +- 0.50

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Tolerance mm : +- 0.05

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000S.

: +- 8.0

	rack travel mm : 4.00
Spreed	Rated speed rpm : 775 Tolerance 1/min : +- 15
Tolerance	Check
cm3/1000 strokes : 8.0	speed 1/min : + 20
Check tolerance	Tolerance mm : + 0.50
cm3/1000s. : 12.0	Rated speed rpm : 850
Tolerance mm : + 0.10 +	LOW IDLE
cm3/1000 strokes : + 3.0	
Check tolerance	Setting point w/out bumper spring
cm3/1000s. : +- 6.0 +-	
Tolerance	CRT mm min. : > 1.50
cm3/1000 strokes : 4.0 + Check tolerance	Testing:
cm3/1000s. : 8.0	resting.
+	Rated speed rpm : 250
(B) SETTING OF INJECTION PUMP	Tolerance mm : + 0.10
WITH GOVERNOR	Rated speed rpm : 300
1	
Ţ	TORQUE CONTROL
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 700 Tolerance mm : +- 0.05
Aneroid pressure	Tolerance mm : +- 0.05
hPa : 1500 +	Tolerance mm : +- 0.10
Tolerance + cm3/1000 strokes : +- 1.0 +	
Check tolerance +	ANEROID/ALTITUDE
cm3/1000s. : + 8.0	COMPENSATOR TEST
Spreed +	
cm3/1000 strokes : 8.0	SETTING
Check tolerance cm3/1000S. : 12.0	Rated speed rpm : 500
12.0	Pressure hPa : 1500
†	Tolerance mm : +- 0.05
CONTROL LEVER	Rated speed rpm : 500
+	Pressure hPa : -
control lever + position degree : 26.0 +	Tolerance mm : ← 0.20
tolerance degree : +- 4.0	MEASUREMENT
	Rated speed rpm : 500
control lever + position degree : 88.0 +	Rated speed rpm : 500
tolerance degree : + 4.0	Pressure hPa : 350
RATED SPEED +	Tolerance mm : + 0.15
Rated speed rpm : 750 +	Pressure hPa : 750
Tolerance 1/min : + 5	Tolerance mm : +- 0.05
Check + speed 1/min : + 10 +	
- 1 · · · · · · · · · · · · · · · · · ·	

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1500

Tolerance

cm3/1000 strokes : \leftarrow 4.0

Check tolerance

cm3/1000s. : \leftarrow 8.0

LOW IDLE

Tolerance mm : + 0.10
Tolerance
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000s. : + 6.0
Spreed
Tolerance
cm3/1000 strokes : 4.0

Check tolerance cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 09.06.98 Edition : ISO 4113 Test oil

Combination No. : 0 402 048 707

Injection pump

Pump designation : PES8P120A320RS3300 EP type number : 0 412 028 707

Governor

Governer design. : RQV350...1400PA1028

Governer no. : 0 421 813 987

Cust. part No. :

Customer-spec. information

Customer : FINCANTIERI

: 1308 V Motor : 500.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : **←** 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 3.55 : +- 0.05 Tolerance mm

Check

tolerance mm : + - 0.10

: 1-2-7-8-4 Firing order

: - 5- 6- 3

: 0-45-90-135-180 Phasing

: -225-270-315

Tolerance : +- 0.50

Check

tolerance "NW : +- 0.75

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 15.35

: +- 0.05 Tolerance mm

Del. quantity cm3/1000 strokes : 288.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

: +- 4.0 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 5.0

Check tolerance cm3/1000s. : 9.0	Rack travel in mm : 14.30 Tolerance mm : +- 1.30
Rated speed rpm : 350	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 8.10 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 39.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000S. : + 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance	Rated speed rpm : 750 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 288.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0
cm3/1000s. : 12.0	Check tolerance cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	CONTROL LEVER
GUIDE SLEEVE TRAVEL	control lever position degree : 118.0
Rated speed rpm : 1415 guide sleeve + travel mm : 8.38	tolerance degree : +- 4.0 RATED SPEED
Tolerance mm : + 0.15	rack travel mm : 14.30 Rated speed rpm : 1395
Rated speed rpm : 350 + guide sleeve + travel mm : 1.56 +	Tolerance 1/min : +- 5 rack travel mm : 4.00
Tolerance mm : + 0.20	Rated speed rpm : 1615 Tolerance 1/min : +- 15
Rated speed rpm : 915 guide sleeve travel mm : 5.32 Tolerance mm : + 0.25	rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1750
Rated speed rpm : 520 guide sleeve travel mm : 3.41	
Tolerance mm : +- 0.25	LOW IDLE
Rated speed rpm : 1750 + guide sleeve + travel mm : 11.50 + Tolerance mm : + 0.50 + Tolerance mm	control lever position degree : 73.0 tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	Setting point w/out bumper spring Rated speed rpm : 250
control lever position degree : -1 Rated speed rpm : 1510	CRT mm min. : > 10.50 Testing:

Rated speed rpm : 350 rack travel mm : 8.10 Tolerance mm : + 0.10 Rated speed rpm : 525 TORQUE CONTROL Rated speed rpm : 750
rack travel mm : 15.35
Tolerance mm : + 0.05 Rated speed rpm : 1350 rack travel mm : 15.30 : ← 0.10 Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa 1000 15.35 rack travel mm Tolerance mm : +- 0.05 Rated speed rpm : 500 Pressure hPa : - rack travel mm : 10.80 Tolerance mm : + 0.20 **MEASUREMENT** Rated speed rpm : 500 : 400 : 12.0 Pressure nra rack travel mm : 12.uu : + 0.20 Pressure hPa : 500 rack travel mm : 13.75 : +- 0.05 Tolerance mm FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 1000 Rated speed rpm : 1350 Del. quantity cm3/1000 strokes : 278.0

Aneroid pressure
hPa : Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 139.0
Tolerance
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000s. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : + 0.75
Del. quantity
cm3/1000 strokes : 420.0
Tolerance
cm3/1000 strokes : + 15.0
Check tolerance
cm3/1000s. : + 19.0

LOW IDLE

Rated speed rpm : 350 Rack travel in mm: 8.10 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 39.0 Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s. : **←** 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

End of test specification sheet

Tolerance cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : \leftarrow 6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.06.98 Test oil : ISO 4113

Combination No. : 0 402 086 705

Injection pump

Pump designation : PES6P100B321RS3388

EP type number : 0 412 006 714

Governor

Governer design. : RSV400...1125P0A694

Governer no. : 0 421 833 617

Cust. part No. : 51.10100-7606

Customer-spec. information

Customer : MAN

Motor

: D0826 LE527

Power KW

: 169.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

40

temp. °C : 40Tolerance °C : \leftarrow 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 150 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter :

2.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : ← 1.0

Prestroke mm : 3.30 Tolerance mm : + 0.05

Check

tolerance mm

: **←** 0.10

Rack travel in mm : 13.50

Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-: 4

Phasing : 0-60-120-180-240

: -300

Tolerance

: **←** 0.50

Check

tolerance °NW

: **←** 0.75

Start of delivery blocking

Tolerance

: **←** 0.10

Check

tolerance °NW

: +- 0.75

Barrel no. :

BASIC SETTING

Rated speed rpm : 925

1	
Rack travel in mm : 13.90 Tolerance mm : +- 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 169.0	Rated speed rpm : 925 Aneroid pressure hPa : 1500
Tolerance cm3/1000 strokes : + 1.0	Del. quantity cm3/1000 strokes : 169.0 Tolerance
Check tolerance cm3/1000s. : + 4.0	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
Spreed	Spread Tolerance
Tolerance cm3/1000 strokes : 4.0	cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 6.0
Check tolerance cm3/1000s. : 6.0	
	CONTROL LEVER
Rated speed rpm : 400	control lever position degree : 104.4
Rack travel in mm : 4.80 + Tolerance mm : + 0.10 + Del. quantity +	tolerance degree : +- 4.0 RATED SPEED
cm3/1000 strokes : 25.0 + Tolerance + cm3/1000 strokes : + 3.0 +	rack travel mm : 12.10 Rated speed rpm : 1175 Tolerance 1/min : +- 5
Check tolerance cm3/1000s. : +- 6.0 Spreed	rack travel mm : 4.00 Rated speed rpm : 1260
Tolerance cm3/1000 strokes : 3.5 check tolerance	Tolerance 1/min : + 15 rack travel mm : 0.85
cm3/1000s. : 5.5	Tolerance mm : ← 0.55 Rated speed rpm : 1400
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1265 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	
control lever position degree : -3 Rated speed rpm : 800	LOW IDLE
Rack travel in mm : 0.50 Tolerance mm : + 0.20	position degree : 80.0 tolerance degree : + 4.0
governor spring	Setting point w/out bumper spring
pre-tension click setting x : 5.50	Rated speed rpm : 400 rack travel mm : 4.30 Tolerance mm : +- 0.10
T	

Testing:

Rated speed rpm rack travel mm	:	400 4.80
Tolerance mm	: +-	0.10
rack travel mm	:	2.00

rack travel mm	:		2.00
Rated speed rpm	:		500
Tolerance 1/min	:	+	30

TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 925 : 13.90 : + 0.05
Rated speed rpm	: 1125
rack travel mm	: 13.10
Tolerance mm	: + 0.10

Rated speed rpm	:	700
rack travel mm	:	14.00
Tolerance mm	: +	- 0.10

Rated speed rpm	:	1000
rack travel mm	:	13.70
Tolerance mm	:	← 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	500
Pressure hPa	:	1500
rack travel mm	:	14.00
Tolerance mm	:	+- 0.10

Rated speed rpm	:	500
Pressure hPa	:	***
rack travel mm	:	9.50
Tolerance mm	: +	-0.20

MEASUREMENT

Rated	speed	rpm	:	500
-------	-------	-----	---	-----

Pressure hPa	:	150
rack travel mm	:	10.00
Tolerance mm	: +	- 0.05

Pressure hPa	:	800
rack travel mm	:	13.20
Tolerance mm	: +-	- 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	1500
Rated speed rpm	:	1125
Del. quantity		
cm3/1000 strokes	:	146.5
Tolerance		

TOCCI WITCC		
cm3/1000 strokes	: +-	3.0
Check tolerance		

Check cocci dilec	
cm $3/1000$ s. : \leftarrow 6.	0

Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm	:	1	500 700 14.00 0.10
Del. quantity cm3/1000 strokes Tolerance	:		184.0
cm3/1000 strokes Check tolerance	:	+-	3.0
cm3/1000s.	:	+-	6.0

Aneroid pressure		
hPa	:	-
Rated speed rpm	:	500
Del. quantity		
cm3/1000 strokes	:	90.0
Tolerance		
cm3/1000 strokes	: +	- 1.0
Check tolerance		
cm3/1000s.	: +-	- 4.0

STARTING FUEL DELIVERY

Rated speed rpm	:		100
rack travel mm	:		9.50
Tolerance mm	:	+-	0.20
Del. quantity			
cm3/1000 strokes			112.0
Tolerance			
cm3/1000 strokes	:	+-	10.0
Check tolerance			
cm3/1000s.	:	+-	14.0

LOW IDLE

Rated speed	rpm	:	400
Rack travel Tolerance mm		: +-	4.80 0.10

:	25.0
: +	3.0
: +-	6.0
•	3.5
:	5.5
	: : +- : +- :

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.06.98 Test oil : ISO 4113

Combination No. : 0 402 646 667

Injection pump

Pump designation : PE6P120A320RS7412 EP type number : 0 412 626 953

Governor

Governer design. : RQV275...1000PA1278K

Governer no. : 0 421 815 509

Cust. part No. : 1310221/1

Customer—spec. information

Customer : DAF
Motor : XF 315 M
Power KW : 315.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 140 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 15.0 Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

4

Phasing : 0-60-120-180-240

: −300 Tolerance : ← 0.50

Check

tolerance °NW : + 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

700

Rack travel in mm : 13.40 Tolerance mm : +- 0.05

	→ guide sleeve
Del. quantity	travel mm : 3.92
cm3/1000 strokes : 318.0	Tolerance mm : + 0.25
CIIIS/ 1000 Strokes . Sto.0	T roterance iiiii . 7- 0.23
T 1	D-4-d 1710
Tolerance	Rated speed rpm : 1310
$cm3/1000$ strokes : \leftarrow 1.0	+ guide sleeve
	† travel mm : 13.50
Check tolerance	+ Tolerance mm : +- 0.50
cm3/1000s. : +- 4.0	1
	<u> </u>
Spreed	↓ GUIDE SLEEVE POSITION
Spi eeu	1
Talamana	Ţ
Tolerance	T
cm3/1000 strokes : 5.0	+ control lever
	<pre> † position degree : − 1 </pre>
Check tolerance	+ Rated speed rpm : 1158
cm3/1000s. : 9.0	+
	+ Rack travel in mm : 12.00
	Tolerance mm : + 2.70
	1
Rated speed rpm : 275	
nation special (piii) Els	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 3.50	TOLL LONG VELIVERY AT TOLL LONG STOP
	Rated speed rpm : 980
Tolerance mm : + 0.10	· · ·
Del. quantity	+ Aneroid pressure
cm3/1000 strokes : 13.5	+ hPa : 1500
Tolerance	† Del. quantity
cm3/1000 strokes : $+-$ 3.0	+ cm3/1000 strokes : 318.0
Check tolerance	+ Tolerance
$cm3/1000s.$: \leftarrow 6.0	+ cm3/1000 strokes : +- 1.0
Spreed	- Check tolerance
Tolerance	+ cm3/1000s. : +- 4.0
cr://1000 strokes : 8.0	Spreed
	· · ·
Check tolerance	+ Tolerance
cm3/1000s. : 12.0	+ cm3/1000 strokes : 5.0
	+ Check tolerance
	+ cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	+
GUIDE SLEEVE TRAVEL	
GOTAL ACCERT UMACE	- control lever
Rated speed rpm : 1077	
guide sleeve	tolerance degree : +- 4.0
travel mm : 10.24	1 0170 0000
Tolerance mm : +- 0.15	+ RATED SPEED
	+ rack travel mm : 12.40
Rated speed rpm : 275	+ Rated speed rpm : 1040
guide sleeve	+ Tolerance 1/min : +- 5
travel mm : 2.04	Check
Tolerance mm : +- 0.20	+ speed 1/min : +- 10
rocerance man O.Eo	1
Poted speed rom : 70/	rack travel mm : 4.00
Rated speed rpm : 704	
guide sleeve	+ Rated speed rpm : 1145
travel mm : 6.53	+ Tolerance 1/min : +- 15
Tolerance mm : +- 0.25	+ Check
	+ speed 1/min : +- 20
Rated speed rpm : 400	+ speed 1/min : +- 20
	+ speed 1/min : +- 20 + rack travel mm : 0.50

Tolerance mm	: ← 0.50
Rated speed rpm	: 1275
LOW IDLE	
control lever position degree tolerance degree	: 72.0 : ← 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 175
CRT mm min.	: > 6.30
Testing:	
Rated speed rpm	: 275
rack travel mm	: 3.50
Tolerance mm	: ← 0.10
Rated speed rpm	: 300
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 980 : 13.40 : ← 0.05
Rated speed rpm	: 750
rack travel mm	: 13.35
Tolerance mm	: +- 0.05
Rated speed rpm	: 700
rack travel mm	: 13.05
Tolerance mm	: ← 0.10
Rated speed rpm	: 600
rack travel mm	: 12.55
Tolerance mm	: +- 0.10
Rated speed rpm	: 500
rack travel mm	: 12.05
Tolerance mm	: +- 0.10
Rated speed rpm	: 1000
rack travel mm	: 13.40
Tolerance mm	: +- 0.10
Rated speed rpm	: 980
rack travel mm	: 13.80
Tolerance mm	: ← 0.10

ANEROID/ALT	ITUDE
COMPENSATOR	TEST

SETTING

Rated speed rpm	:	980
Pressure hPa	:	1500
rack travel mm	:	13.40
Tolerance mm	:	+- 0.05

Rated speed rpm	:	980
Pressure hPa	:	_
rack travel mm	:	8.55
Tolerance mm	: +-	- 0.20

MEASUREMENT

Rated speed rpm	: 980
Pressure hPa	: 520
rack travel mm	: 12.20
Tolerance mm	: + 0.05
Pressure hPa	: 210
rack travel mm	: 9.80
Tolerance mm	: + 0.15

FUEL DELIVERY CHARACTERISTICS

	·
Aneroid pressure hPa Rated speed rpm	: 1500 : 750
Del. quantity cm3/1000 strokes Tolerance	: 342.0
cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000S. Spreed	: +- 5.0
Tolerance cm3/1000 strokes Check tolerance	: 8.0
cm3/1000S.	: 12.0
rack travel mm Tolerance mm	: 13.05 : + 0.10
Aneroid pressure hPa	: -
Rated speed rpm Del. quantity	: 600
cm3/1000 strokes	: 195.0

Tolerance		
cm3/1000 strokes	: +-	1.0
Check tolerance		
cm3/1000s.	: +-	4.0
Spreed		
Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance		
cm3/1000S.	:	12.0

LOW IDLE

Rated speed rpm	:		275
Rack travel in mm Tolerance mm Del. quantity	:	+-	3.50 0.10
cm3/1000 strokes Tolerance	:		13.5
cm3/1000 strokes Check tolerance	:	+	3.0
cm3/1000s.	:	+-	6.0
Spreed Tolerance			
cm3/1000 strokes	;		8.0
Check tolerance cm3/1000s.	:		12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.06.98 Test oil : ISO 4113

Combination No. : 0 402 646 668

Injection pump

Pump designation : PE6P120A320RS7412 EP type number : 0 412 626 953

Governor

Governer design. : RQV275...1000PA1278

: -1K

Governer no. : 0 421 815 510

Cust. part No. : 1310220/1

Customer—spec. information
Customer : DAF
Motor : XF 280 M
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 145 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 15.0 Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 12.60

N19

	and decembers
Tolerance mm : + 0.05	- guide sleeve - travel mm : 3.92
Del. quantity	- Tolerance mm : +- 0.25
cm3/1000 strokes : 303.0	-
J. 1000 011 01100 V	- Rated speed rpm : 1310
Tolerance	- guide sleeve
cm3/1000 strokes : +- 1.0	- travel mm : 13.50
<u> </u>	Tolerance mm : +- 0.50
Check tolerance +	•
cm $3/1000$ S. : \leftarrow 4.0 $+$	CHAR OF EDIT BOOTTON
Canada	GUIDE SLEEVE POSITION
Spreed	•
Tolerance	- control lever
cm3/1000 strokes : 5.0	position degree : - 1
	Rated speed rpm : 1171
Check tolerance	•
cm3/1000s. : 9.0	Rack travel in mm : 10.70
	· Tolerance mm : +- 2.00
+	•
+	PILL LOSS DEL TUENCA AN ANTICA
Rated speed rpm : 275	FULL LOAD DELIVERY AT FULL LOAD STOP
Book travel in mr. 350	. Dated speed now . 750
Rack travel in mm: 3.50 + Tolerance mm: + 0.10 +	Rated speed rpm : 750 Aneroid pressure
· ·	hPa : 1500
Del. quantity + cm3/1000 strokes : 13.5 +	Del. quantity
Tolerance	cm3/1000 strokes : 303.0
cm3/1000 strokes : +- 3.0	Tolerance
Check tolerance	cm3/1000 strokes : +- 1.0
cm3/1000s. : + 6.0	Check tolerance
Spreed	cm3/1000S. : +- 4.0
Tolerance	Spreed
cm3/1000 strokes : 8.0	Tolerance
Check tolerance	cm3/1000 strokes : 5.0
cm3/1000s. : 12.0	Check tolerance
+	cm3/1000s. : 9.0
+	
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	CONTROL LEVED
	CONTROL LEVER
GUIDE SLEEVE TRAVEL	control lever
T T	position degree : 118.0
Rated speed rpm : 1062	tolerance degree : +- 4.0
guide sleeve	
travel mm : 10.04	RATED SPEED
Tolerance mm : + 0.15	rack travel mm : 11.35
<u> </u>	Rated speed rpm : 1050
Rated speed rpm : 275	Tolerance 1/min : +- 5
guide sleeve	Check
travel mm : 2.04	speed 1/min : +- 10
Tolerance mm : +- 0.20 +	
+	rack travel mm : 4.00
Rated speed rpm : 697	Rated speed rpm : 1150
guide sleeve	Tolerance 1/min : +- 15
travel mm : 6.48	Check
Tolerance mm : +- 0.25	speed 1/min : +- 20
Rated speed rpm : 400	rack travel mm : 0.50
Rated speed rpm : 400 +	rack travel mm : 0.50

N20

Tolerance mm Rated speed rpm	: +- 0.50 : 1275	Rated speed rpm : 775 Pressure hPa : 1500 rack travel mm : 12.65 Tolerance mm : + 0.05
LOW IDLE	·····	Rated speed rpm : 775 Pressure hPa : -
		rack travel mm : 8.50 Tolerance mm : +- 0.20
control lever position degree tolerance degree		MEASUREMENT
	out bumper spring	Rated speed rpm : 775
		Pressure hPa : 450
Rated speed rpm		rack travel mm : 12.10 Tolerance mm : +- 0.05
CRT mm min.	: > 6.10	Pressure hPa : 170
Testing:		+ rack travel mm : 9.90
_		Tolerance mm : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 275 : 3.50	‡
Tolerance mm	: + 0.10	
Rated speed rpm		+ FUEL DELIVERY CHARACTERISTICS
		Aneroid pressure
TORQUE CONTROL		+ hPa : 1500
Rated speed rpm	: 750	hPa : 1500 Rated speed rpm : 980
Rated speed rpm rack travel mm Tolerance mm	: 12.60	+ Del. quantity
loterance mm	: +- 0.05	+ cm3/1000 strokes : 272.0 + Tolerance
Rated speed rpm	: 980	cm3/1000 strokes : + 2.0
rack travel mm Tolerance mm	: 12.35	+ Check tolerance
Tolerance mm	: ← 0.10	cm3/1000s. : + 5.0 Spreed
Rated speed rpm	: 900	+ Tolerance
rack travel mm	: 12.60	cm3/1000 strokes : 8.0
Tolerance mm	: +- 0.10	+ Check tolerance + cm3/1000S. : 12.0
Rated speed rpm	: 700	+
rack travel mm Tolerance mm	: 12.30	12.70
Tolerance mm	: +- 0.10	+ rack travel mm : 12.60 + Tolerance mm : +- 0.10
Rated speed rpm	: 600	Total and and total and to
rack travel mm	: 11.80	
Tolerance mm	: + 0.10	+ Aneroid pressure
Rated speed rpm	. 500	+ hPa : - + Rated speed rpm : 600
rack travel mm	: 500 : 11 An	Del. quantity
Tolerance mm		cm3/1000 strokes : 184.0
		Tolerance
ANDDOTO / AL TITURO		
ANEROID/ALTITUDE COMPENSATOR TEST		+ Check tolerance + cm3/1000s. : +- 4.0 + Spreed
		Tolerance
SETTING		- cm3/1000 strokes : 8.0

1	Ch	e	:k	to	le	ran	ce
		-		200	_		

cm3/1000s. : 12.0

LOW IDLE

Rated	speed	rom	:	275
Kated	Speed	CONT		6/3

3.50 Rack travel in mm : : **←** 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 13.5 Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance 8.0 cm3/1000 strokes : Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.06.98 Test oil : ISO 4113

Combination No. : 0 402 646 670

Injection pump

Pump designation : PE6P120A320RS7438 EP type number : 0 412 626 965

Governor

Governer design. : RQV275...1150PA1296K

Governer ro. : 0 421 815 523

Cust. part No. : 1316183

Customer-spec. information

Customer : DAF

: PF 235 M Motor : 230.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 150
Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 15.0 Tolerance bar : + 1.0

Prestroke mm : 4.85 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 : +- 0.50

Tolerance

Check

tolerance °NW : **←** 0.75

Start of delivery mark

: +- 0.10 Tolerance

Check

tolerance "NW : +- 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : Tolerance mm :	: 13.50 : +- 0.05	Rated speed rpm : 450 guide sleeve travel mm : 3.85
Del. quantity cm3/1009 strokes :	: 259.0	Tolerance mm : +- 0.25 Rated speed rpm : 1480
Tolerance cm3/1000 strokes :	+ 1.0	guide sleeve travel mm : 13.50 Tolerance mm : + 0.50
Check tolerance cm3/1000s. :	+- 4.0	GUIDE SLEEVE POSITION
Spreed	**************************************	+
Toleranse cm3/1000 strokes :	5.0	control lever position degree : - 1 Rated speed rpm : 1321
Check tolerance cm3/1000s. :	9.0	Rack travel in mm : 12.25 Tolerance mm : + 1.30
Rated speed rpm :	275	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm: Tolerance mm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes:	+ 0.10 16.0	Rated speed rpm : 850 Ancroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 259.0 Tolerance
Spreed Tolerance	← 6.0	+ cm3/1000 strokes : + 1.0 + Check tolerance - cm3/1000S. : + 4.0 - Spreed
cm3/1000 strokes : Check tolerance cm3/1000S. :	8.0 12.0	Tolerance - cm3/1000 strokes : 5.0 - Check tolerance - cm3/1000S. : 9.0
(B) SETTING OF INJE	CTION PUMP	‡
		+ CONTROL LEVER
GUIDE SLEEVE TRAVEL		control lever position degree : 119.0
Rated speed rpm : guide sleeve		tolerance degree : +- 4.0
travel mm : Tolerance mm :	10.07 +- 0.15	+ RATED SPEED + rack travel mm : 12.20 + Rated speed rpm : 1185
guide sleeve	275	+ Tolerance 1/min : + 5 + Check
travel mm : Tolerance mm :	1.71 +- 0.20	speed 1/min : +- 10
Rated speed rpm : guide sleeve travel mm :	811 6.79	rack travel mm : 4.00 Rated speed rpm : 1310 Tolerance 1/min : +- 15 Check
	+ 0.25	+ speed 1/min : +- 20

rack travel mm Tolerance mm Rated speed rpm	: 0.70 : ← 0.70 : 1450
LOW IDLE	
control lever position degree tolerance degree	: 73.0 : +- 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 175
CRT mm min.	: > 7.60
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : 5.00 : ← 0.10
Rated speed rpm	: 395
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 850 : 13.50 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 1130 : 13.20 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 1000 : 13.25 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 800 : 13.45 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 650 : 12.70 : +- 0.10
Rated speed rimm rack travel mm Tolerance mm	: 500 : 11.90 : ← 0.10

SETTING

Rated speed rpm	: 875
Pressure hPa	: 1500
rack travel mm	: 13.50
Tolerance mm	: + 0.10
Rated speed rpm	: 875
Pressure hPa	: -
rack travel mm	: 9.00
Tolerance mm	: + 0.10
MEASUREMENT	
Rated speed rpm	: 875
Pressure hPa	: 650
rack travel mm	: 12.70
Tolerance mm	: + 0.05
Pressure hPa	: 350
rack travel mm	: 10.60
Tolerance mm	: ← 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1500 : 1130 : 232.0 : + 2.0 : + 5.0 : 8.0 : 12.0
rack travel mm Tolerance mm	: 13.25 : ← 0.10
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 600 : 166.0 : + 1.0 : + 4.0

Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance		

cm3/1000s. : 12.0

LOW IDLE

Rated	speed	rpm	:	275
-------	-------	-----	---	-----

march opeca ip	•		2.5	
Rack travel in mm Tolerance mm Del. quantity		+-	5.00 0.10	
cm3/1000 strokes	:		16.0	
Tolerance cm3/1000 strokes	:	+-	3.0	
Check tolerance cm3/1000s.	•	+-	6.0	
Spreed	•		3.0	
Tolerance cm3/1000 strokes	:		8.0	
Check tolerance cm3/1000s.	:		12.0	